Statement:

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Trademark:

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Version:

User's Manual V1.0 in English for NF4K8AB series motherboard.

P/N: 91-181-K84-A3-0E

Symbol description:

Note: refers to important information that can help you to use motherboard better.

Attention: indicates that it may damage hardware or cause data loss, and tells you how to avoid such problems.

Warning: means that a potential risk of property damage or physical injury exists.

More information:

If you want more information about our products, please visit the following website: http://www.foxconnchannel.com

Item Checklist:

Thank for your purchasing WinFast NF4K8AB series motherboard. Please check the package; if there are missing or damaged items, contact your distributor as soon as possible.

- ❖NF4K8AB series motherboard (x1)
- ❖WinFast Utility CD (x1)
- ❖User's Manual (x1)
- ❖IDE Ribbon Cable (x2)
- ❖FDD Ribbon Cable (x1)
- ❖I/O Shield (x1)
- ❖S-ATA Signal Cable (x2)
- ❖S-ATA Power Cable (x1)
- ❖USB 2.0 Cable (x1) (optional)
- ❖NVRAID Driver Floppy Disk (x1)

Declaration of conformity

CE

HON HAI PRECISION INDUSTRY COMPANY LTD
66 , CHUNG SHAN RD., TU-CHENG INDUSTRIAL DISTRICT,
TAIPEI HSIEN, TAIWAN, R.O.C.

declares that the product

Motherboard

NF4K8AB

is in conformity with
(reference to the specification under which conformity is declared in accordance with 89/336 EEC-EMC Directive)

☑ EN 55022/A1: 2000	Limits and methods of measurements of radio disturbance characteristics of information technology equipment
☑ EN 61000-3-2/A14:2000	Electromagnetic compatibility (EMC) Part 3: Limits Section 2: Limits for harmonic current emissions (equipment input current <= 16A per phase)
☑ EN 61000-3-3/A1:2001	Electromagnetic compatibility (EMC) Part 3: Limits Section 2: Limits of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current <= 16A
☑ EN 55024/A1:2001	Information technology equipment-Immunity characteristics limits and methods of measurement

Signature : James Liang Place / Date : TAIPEI/2005

Printed Name : James Liang Position/ Title : Assistant President

Declaration of conformity

Trade Name:	WinFast
Model Name:	**NF4K8AB**
Responsible Party:	PCE Industry Inc.
Address:	458 E. Lambert Rd. Fullerton, CA 92835
Telephone:	714-738-8868
Facsimile:	714-738-8838
Equipment Classification:	FCC Class B Subassembly
Type of Product:	Motherboard
Manufacturer:	**HON HAI PRECISION INDUSTRY COMPANY LTD**
Address:	66 , CHUNG SHAN RD., TU-CHENG INDUSTRIAL DISTRICT, TAIPEI HSIEN, TAIWAN, R.O.C.

Supplementary Information:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Tested to comply with FCC standards.

Signature : James Liang Date : 2005

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Warning:

1. Attach the CPU and heatsink using silica gel to ensure full contact.
2. It is suggested to select high-quality, certified fans in order to avoid damage to the motherboard and CPU due to high temperature.
3. Never turn on the machine if the CPU fan is not properly installed.
4. Ensure that the DC power supply is turned off before inserting or re moving expansion cards or other peripherals, especially when you insert or remove a memory module. Failure to switch off the DC power supply may result in serious damage to your system or memory module.

Warning:

We cannot guarantee that your system will operate normally while overclocked. Normal operation depends on the overclock capacity of your device.

Attention:

Since BIOS programs are upgraded from time to time, the BIOS description in this manual is just for reference. We do not guarantee that the content of this manual will remain consistent with the actual BIOS version at any given time in the future.

Attention:

The pictures of objects used in this manual are just for your reference. Please refer to the physical motherboard.

This manual is suitable for motherboard of NF4K8AB series. Each motherboard is carefully designed for the PC user who wants diverse features.

-L	with onboard 100M LAN
-K	with onboard 1G LAN
-6	with 6-channel audio
-8	with 8-channel audio
-E	with 1394
-S	with SATA
-R	with RAID

You can find PPID label on the motherboard. It indicates the functions that the motherboard has.

For example:

On the blue mark of the PPID label, it means the motherboard supports 6-channel Audio (-6), 1394 port (-E), onboard 100M LAN (-L), SATA function (-S).

Chapter 1

Thank you for buying WinFast NF4K8AB series motherboard. This series of motherboard is one of our new products, and offers superior performance, reliability and quality, at a reasonable price. This motherboard adopts the advanced NVIDIA nForce4 chipset, providing users a computer platform with a high integration-compatibility-performance price ratio.

This chapter includes the following information:

- Main Features
- Motherboard Layout

Main Features

Size:

- ATX form factor of 12” x 9.6”

Microprocessor:

- Supports AMD socket 754 Sempron™, Athlon™ 64 processors
- Supports HyperTransport technology

Chipset:

- NVIDIA chipset: nForce4

System Memory DDR400

- Three 184-pin DDR DIMM slots
- Supports PC3200/2700/2100 memory
- Supports 128/256/512/1024Mb technology up to 3GB

USB 2.0 Port

- Supports hot-plug
- Ten USB 2.0 ports (four rear panel ports, three onboard USB headers providing six extra ports)
- Supports wake-up from S1 and S3 mode
- Supports USB 2.0 protocol up to 480Mbps transmission rate

Onboard Serial ATA

- 150MBps transfer rate
- Supports four S-ATA devices

NVIDIA RAID Technology

- supports RAID 0, RAID 1, RAID 0+1 and JBOD
- Cross-controller RAID uniquely supports both SATA and PATA disk devices within a single array

Onboard LAN (-L/-K) (optional)

- Supports10/100/1000 (-K optional) Mbps Ethernet
- LAN interface built-in on board

Note: The shielded LAN cables are recommended.

Onboard Audio (-6)(optional)

- AC' 97 2.3 Specification Compliant
- Supports S/PDIF output
- Onboard Line-in jack, Microphone jack, Line-out jack
- Supports 6-channel audio (setting via software)

Onboard Audio (-8)(optional)

- Supports 8-channel audio
- Supports S/PDIF output
- Supports Universal Audio Jack (UAJ)
- Supports high quality differential CD input

Onboard 1394 (-E) (optional)

- Supports hot-plug
- With rate of transmission at 400Mbps
- Self-configured addressing
- Supports two independent 1394 units synchronously at most, such as HDD, CD-ROM

BIOS

- Licensed advanced AWARD (Phoenix) BIOS, supports flash ROM, Plug-and-Play
- Supports IDE, CD-ROM, SCSI HDD or USB device boot up

Green Function

- Supports ACPI (Advanced Configuration and Power Interface)
- Supports S0 (normal), S1 (power on suspend), S3 (suspend to RAM), S4 (suspend to disk-depends on OS), and S5 (soft-off) ACPI state

PCI Express x16 Support

- Supports 4 GB/sec (8GB/sec concurrent) bandwidth
- Low power consumption and power management features

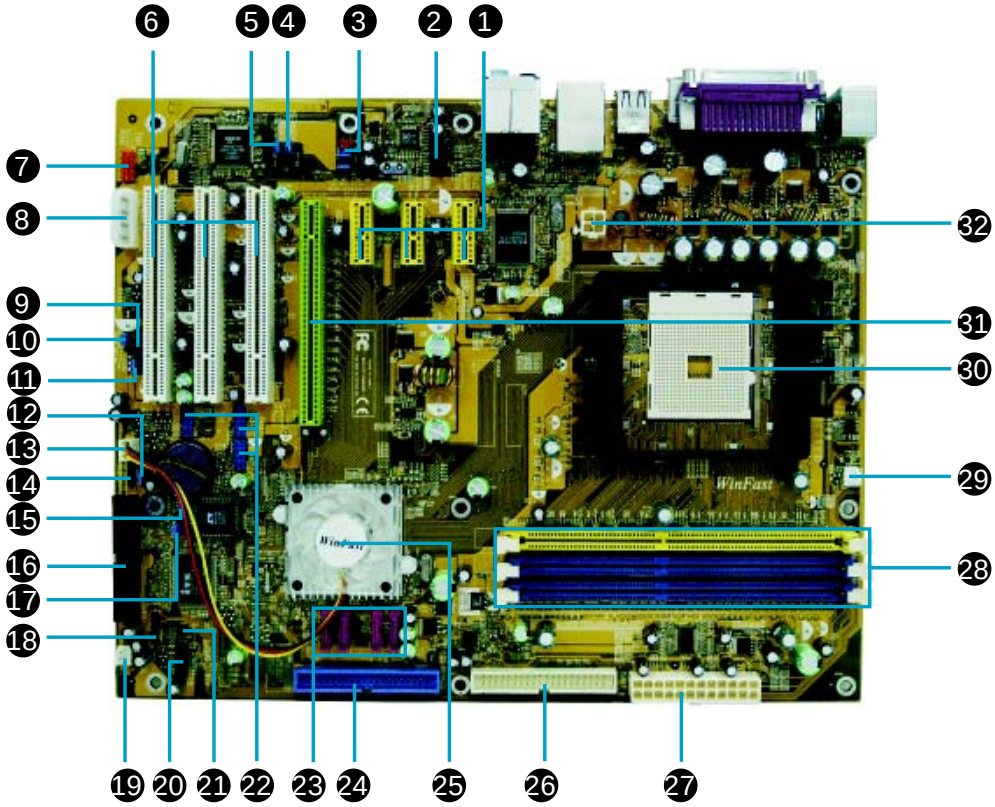
Expansion Slots

- Three PCI slots
- Three PCI Express x1 slots
- One PCI Express x16 Graphics slot

Advanced Features

- PCI 2.3 Specification Compliant
- Supports PC Health function (capable of monitoring system voltage, CPU temperature, system temperature, and fan speed)

Motherboard Layout



1. PCI Express x1 slots
2. CD_IN connector
3. Front Audio connector
4. Termination enable jumper
5. PEX PLL REFCLK jumper
6. PCI slots
7. F_1394 connector (optional)
8. Auxiliary PEX power connector
9. SPDIF_OUT connector
10. ROM Table Select jumper
11. Recovery jumper
12. PEX REFCLK jumper
13. FAN1 connector
14. Speaker connector
15. Clear CMOS jumper
16. Floppy drive connector
17. BIOS TBL Enable jumper
18. IrDA connector
19. FAN2 connector
20. Front Panel connector
21. Intruder connector
22. Front USB connectors
23. SATA connectors
24. Primary IDE connector
25. Chipset: NVIDIA nForce4
26. Secondary IDE connector
27. 24-pin power connector
28. DDR DIMM slots
29. CPU_FAN connector
30. Socket 754
31. PCI Express x16 slot
32. 12V CPU power connector

Note: The above motherboard layout is provided for reference only; please refer to the physical motherboard.

Chapter 2

This chapter introduces the hardware installation process, including the installation of the CPU and memory. It also addresses the connection of your power supply, use of the rear panel connectors, connection of hard drive and floppy drive data cables, and setting up various other feature of the motherboard. Caution should be exercised during the installation process. Please refer to the motherboard layout prior to any installation and read the contents in this chapter carefully.

This chapter includes the following information:

- CPU
- Memory
- Power Supply
- Rear Panel Connectors
- Other Connectors
- Expansion Slots
- Jumpers

Notes:

Take note of the following precautions before you install components or change settings.

1. Use a grounded wrist strap or touch a safely grounded object, such as an attached power supply, before handling components to avoid damaging them due to static electricity.
2. Unplug the power cord before opening your chassis or touching any components.
3. Hold components by their edges to avoid touching any exposed integrated circuits (ICs).
4. Whenever you uninstall a component, place it on a grounded anti-static pad or into the anti-static bag that it came in.

CPU

This motherboard supports AMD socket 754 Sempron™, Athlon™ 64 family processors with HyperTransport ™ Technology.

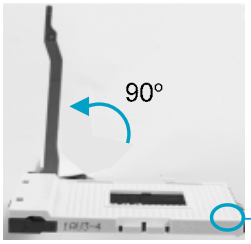
Attention:

The CPU pins must be properly aligned with the holes in the socket, otherwise the CPU may be damaged.

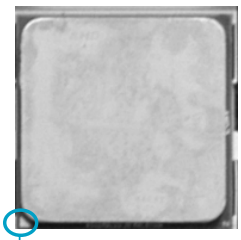
Installation of CPU

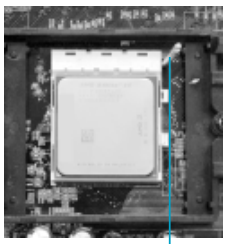
Follow these steps to install the CPU.

1. Unlock the socket by pressing the lever sideways, then lift it up to a 90° angle.

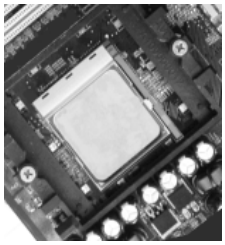


2. Align the cut edge to the gap in the base of the socket. Carefully insert the CPU into the socket until it fits in place.



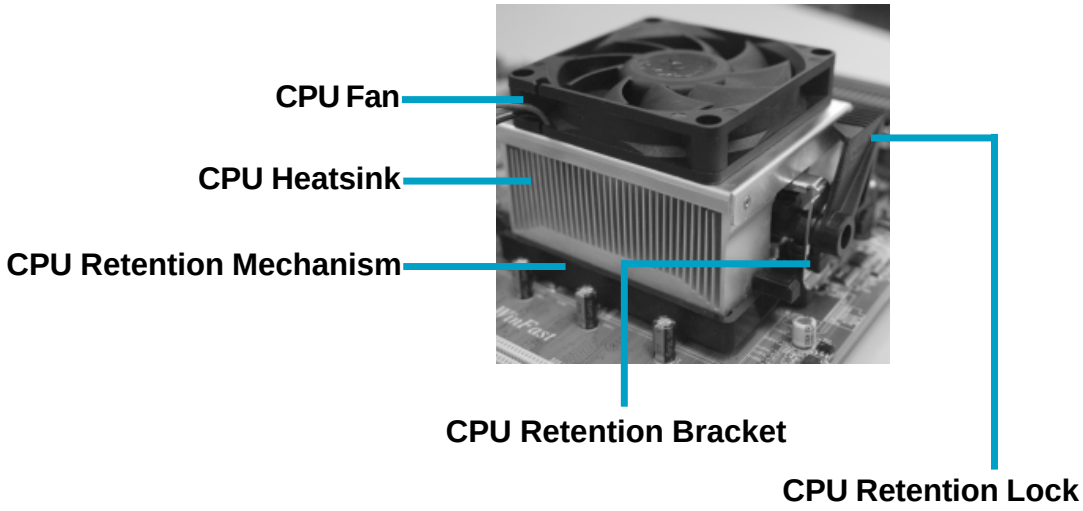


3. When the CPU is in place, press it firmly on the socket while you push down the socket lever to secure the CPU. The lever clicks on the side tab to indicate that it is locked.



Installation of CPU Fan

New technology allows processors to run at higher and higher frequencies. To avoid problems arising from high-speed operation, for example, overheating, you need to install the proper fan. The following procedure is provided for reference only, please refer to your CPU fan user guide for the actual procedure.

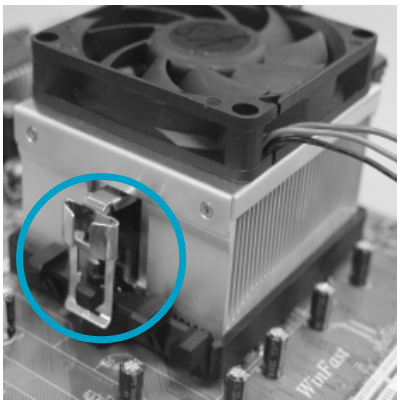


1.Locate the CPU retention mechanism base (surrounds the CPU socket).

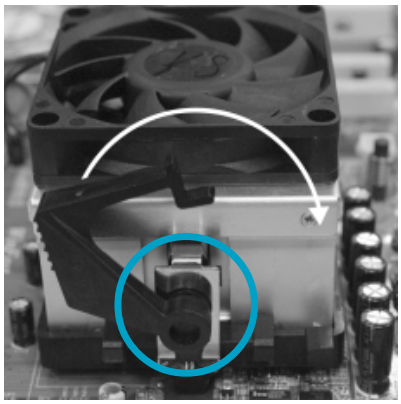
2. If required, apply a light coating of silica gel to the top of the CPU.

NOTE: The CPU heatsink may have a pre-applied thermal compound. In that case, the silica gel is not required.

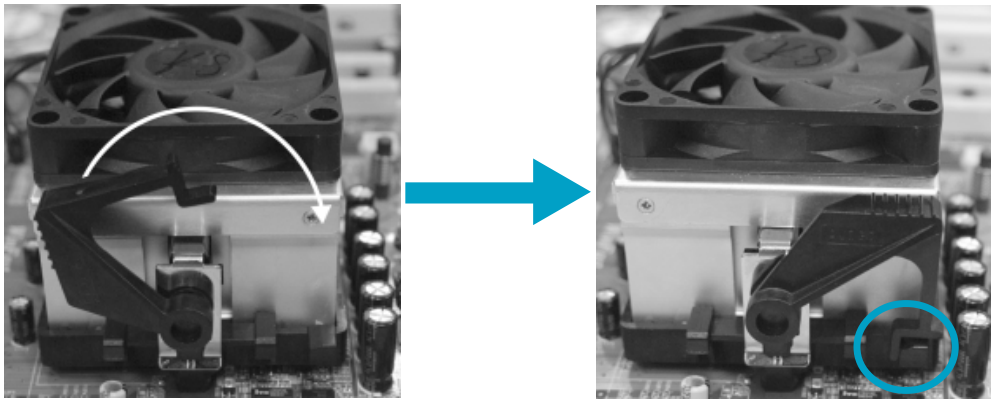
3. Place the cooling set onto the retention mechanism. Attach one end of the retention bracket to retention mechanism.



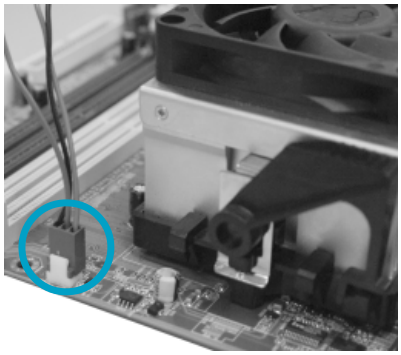
4. Align the other end of the retention bracket to fasten the cooling set on the top of the retention mechanism.



5. Push down the retention bracket lock on the retention mechanism to secure the heatsink and fan to module base.



6. Connect the fan's power cable to the appropriate 3-pin terminal on the motherboard.



CPU Qualified Vendor List

The following table lists the CPUs that have been tested and qualified for use with this motherboard.

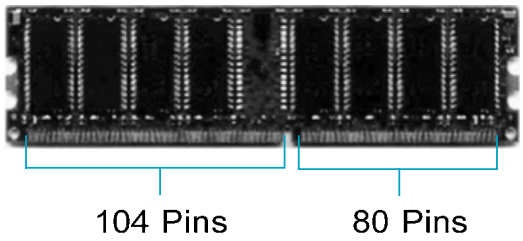
Socket	CPU	Host Bus Speed (Hz)
754	Athlon 64 3000+	1.8G
754	Athlon 64 3200+	2.0G
754	Athlon 64 3400+	2.2G
754	Athlon 64 2800+	1.8G
754	Athlon 64 3700+	2.4G
754	Sempron 3100+	2.0G

Memory

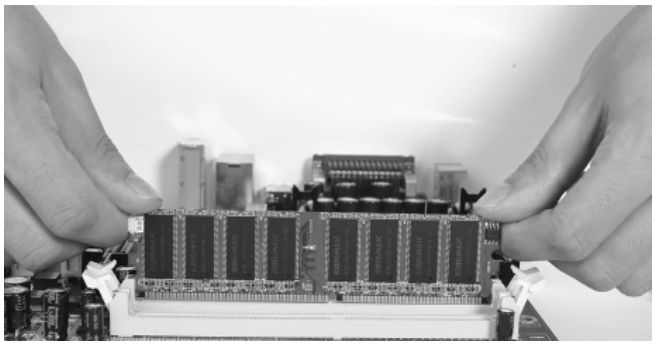
This motherboard includes three 184-pin slots with 266/333/400 MHz single channel DDR DRAM interface, You must install at least one memory module to ensure normal operation and install to DIMM1 at first. Mixing memory modules from different manufactures are not recommended.

Installation of DDR Memory

1. There is only one gap in the center of the DIMM slot, and the memory module can be fixed in one direction only.
2. Align the memory module to the DIMM slot, and insert the module vertically into the DIMM slot.



3. The plastic clips at both sides of the DIMM slot will lock automatically.



Note:

Be sure to unplug the AC power supply before adding or removing expansion cards or other system peripherals, especially the memory devices, otherwise your motherboard or the system memory might be seriously damaged.

Memory Qualified Vendor List

The following table list is the memory modules that have been tested and qualified for use with this motherboard.

Vendor	Type	Size
GEIL	(PC3200) DDR 400	512MB
TWINMOS	(PC3200) DDR 400	1GB
HLX	(PC2700) DDR 333	256MB
SAMSUNG	(PC3200) DDR 400	256MB
SAMSUNG	(PC2700) DDR 333	512MB
INFINEON	(PC2700) DDR 333	128MB
MT	(PC2700) DDR 333	256MB
MT	(PC2700) DDR 333	512MB
HYNIX	(PC2700) DDR 333	128MB
SAMSUNG	(PC2700) DDR 333	256MB
SAMSUNG	(PC2700) DDR 333	128MB
KINGSTEK	(PC2700) DDR 333	512MB
CRL	(PC2700) DDR 333	512MB
NANYA	(PC2700) DDR 333	1GB
HLX	(PC2100) DDR 266	256MB
KINGMAX	(PC2100) DDR 266	256MB
NANYA	(PC2100) DDR 266	128MB
SAMSUNG	(PC3200) DDR 400	128MB
INFINEON	(PC3200) DDR 400	128MB
HYNIX	(PC3200) DDR 400	128MB
INFINEON	(PC3200) DDR 400	256MB
CORSAIR	(PC3200) DDR 400	512MB
KINGSTEK	(PC3200) DDR 400	512MB
MT	(PC2700) DDR 333	128MB

Note:

Make sure to use only the tested and qualified DDR modules listed above. Other DDR modules manufactured by other vendors may not be suitable for this motherboard.

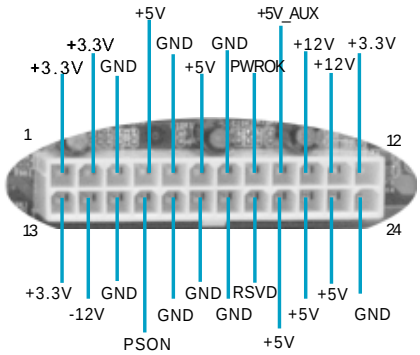
Power Supply

This motherboard uses an ATX power supply. In order to avoid damaging any devices, make sure that they have been installed properly prior to connecting the power supply.

24-pin ATX Power Connector: PWR1

PWR1 is the ATX power supply connector. Make sure that the power supply cable and pins are properly aligned with the connector on the motherboard. Firmly plug the power supply cable into the connector and make sure it is secure.

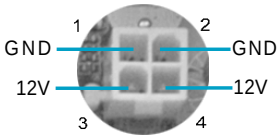
24-pin ATX Power Connector



ATX 12V Power Connector: PWR2

The 4 pin ATX 12V power supply connects to PWR2 and provides power to the CPU.

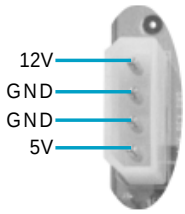
ATX 12V Power Connector



AUX PEX PWR connector: J2A1

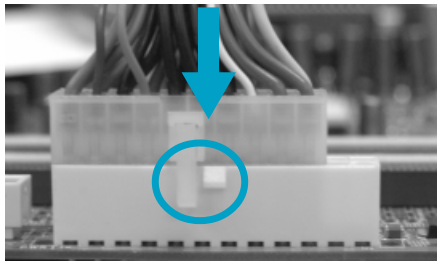
This connector is auxiliary power which mainly supplies for PXE function.

AUX PEX PWR connector



Attention:

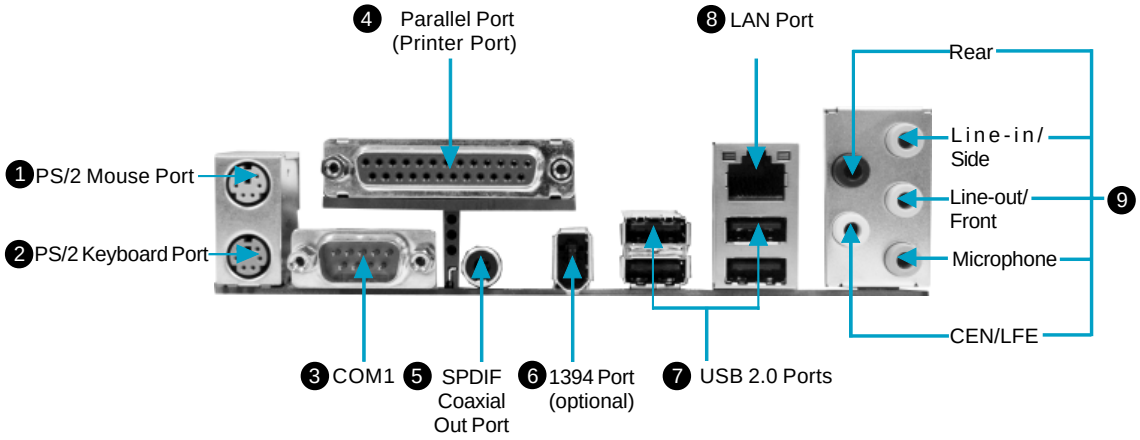
We strongly recommend you use 24-pin power supply. If you want to use 20-pin power supply, you need to align the ATX power connector according to the right picture.



Rear Panel Connectors

This motherboard provides the following ports as below:

For -8 models



For -6 models

❶ PS/2 Mouse Port

This green 6-pin connector is for a PS/2 mouse.

❷ PS/2 Keyboard Port

This purple 6-pin connector is for a PS/2 keyboard.

❸ Serial Port: COM1

This 9-pin COM1 port is for pointing devices or other serial devices.

❹ Parallel Port: Printer Port

The 25-pin port connects a parallel printer, a scanner, or other devices.

❺ SPDIF Coaxial Out Port

This port connects to external audio output devices with coaxial cable connectors.

❻ 1394 Port (optional)

This digital interface supports electronic devices such as digital cameras, scanners, and printers.

❼ USB 2.0 Ports

These four Universal Serial Bus (USB) ports are available for connecting USB 2.0/1.1 devices.

❽ LAN Port (-L/-K)(optional)

This port allows connection to a Local Area Network (LAN) through a network hub.

❾ Rear, Line in/Side, Line out/Front, Microphone, CEN/LFE Jacks (for -8 models)

When using a 2-channel sound source, the Line out jack is used to connect to speaker or headphone; the Line in jack connects to an external CD player, tape player or other audio device. The Microphone jack is used to connect to the microphone.

When using a 6-channel sound source, connect the front speaker to the green audio output; connect the surround sound speaker to the black audio output; connect the center speaker/subwoofer to the yellow audio output.

When using a 8-channel sound source, connect the front speaker to the green audio output; connect the rear sound speaker to the black audio output; connect the center speaker/subwoofer to the yellow audio output; connect the side sound speaker to the blue audio output.

❿ Line in, Line out, Microphone Jacks (for -6 models)

When using a 2-channel sound source, the Line out jack is used to connect to speaker or headphone; the Line in jack connects to an external CD player, tape player or other audio device. The Microphone jack is used to connect to the microphone.

When using a 6-channel sound source, connect the front speaker to the green audio output; connect the surround sound speaker to the blue audio output; connect the center speaker/subwoofer to the red Microphone output.

Other Connectors

This motherboard includes connectors for FDD, IDE devices, SATA devices, USB devices, IR module, CPU fan, system fan, and others.

Floppy Connector: FLOPPY

This motherboard includes a standard floppy connector, supporting 360 K, 720 K, 1.2 M, 1.44 M, and 2.88 M FDDs.

HDD Connectors: PIDE & SIDE

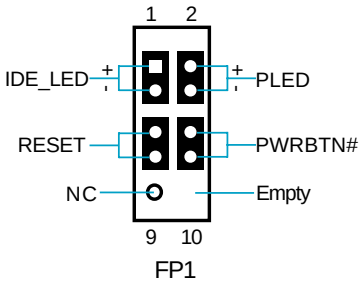
These connectors support the provided Ultra DMA133/100/66/33 IDE hard disk ribbon cable and you can configure as a disk array through NVIDIA nForce4 IDE RAID controller. Refer to chapter 5 for details on how to set up RAID configurations. Connect the cable's blue connector to the primary (recommended) or secondary IDE connector, then connect the gray connector to the slave device (hard disk drive) and the black connector to the master device. If you install two hard disks, you must configure the second drive as a slave device by setting its jumper accordingly. Refer to the hard disk documentation for the jumper settings.

Attention:

Ribbon cables are directional, therefore, make sure to always connect with the cable on the same side as pin 1 of the PIDE, SIDE or FLOPPY connector on the motherboard.

Front Panel Connector: FP1

This motherboard includes one connector for connecting the front panel switch and LED indicator.



FP1

Hard Disk LED Connector (IDE_LED)

Attach the connector to the IDE_LED on the front panel of the case; the LED will flash while the HDD is in operation.

Reset Switch (RESET)

Attach the connector to the Reset switch on the front panel of the case; the system will restart when the switch is pressed.

Power LED Connector (PLED)

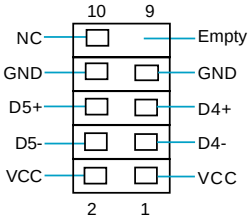
Attach the connector to the Power LED on the front panel of the case. The Power LED indicates the power supply status. When the system is in S0 status, the LED is on. When the system is in S1 status, the LED is blink. When the system is in S3, S4, S5 status, the LED is off.

Power Switch Connector (PWRBTN#)

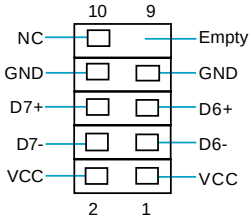
Attach the connector to the power button of the case. Pushing this switch allows the system to be turned on and off rather than using the power supply button.

USB Connectors: F_USB 1, F_USB 2, F_USB 3

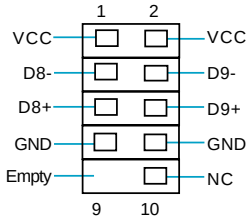
Besides four USB ports on the rear panel, the series of motherboards also have three 10-pin headers on board which may connect to the front panel USB cable to provide additional six USB ports.



F_USB1



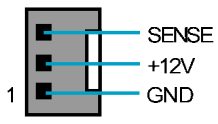
F_USB2



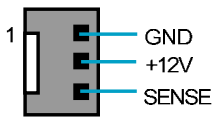
F_USB3

FAN Connectors: CPU_FAN, FAN1, FAN2

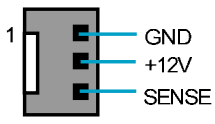
Connect the CPU cooling fan cable into the 3-pin CPU_FAN on the motherboard. Connect the chipset cooling fan cable into the 3-pin FAN1 on the motherboard. Connect the system cooling fan cable into the 3-pin FAN2 on the motherboard.



CPU_FAN



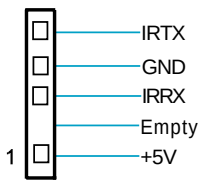
FAN1



FAN2

IrDA Connector: IR

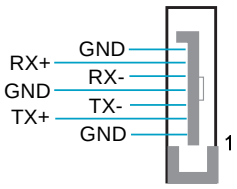
The IrDA infrared transmission allows your computer to send and receive data via an infrared ray. The relevant parameters for the BIOS Integrated Peripherals should be set prior to using this function.



IR

S-ATA Connectors: SATA0, SATA1, SATA2, SATA3

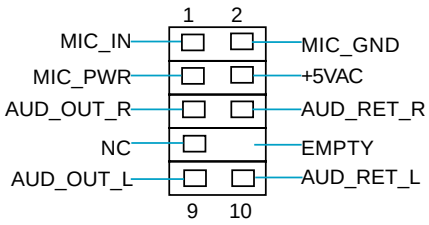
The Serial ATA connectors are used to connect the Serial ATA devices to the motherboard. These connectors support the thin Serial ATA cables for primary storage devices. The current Serial ATA interface allows up to 150MB/s data transfer rate. Refer to chapter 5 on how to set up SATA RAID configurations for details.



SATA0/1/2/3

Front Audio Connector: F_AUDIO

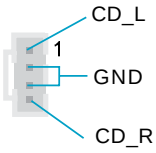
The audio port includes two parts – the Front Audio and Rear Audio. Their priority is sequenced from high to low (Front Audio to Rear Audio). If headphones are plugged into the front panel of the chassis (using the Front Audio), then the Line Out (Rear Audio) on the rear panel will not work. If you do not want to use the Front Audio, pin 5 and 6, pin 9 and 10 must be short, and then the signal will be sent to the rear audio port.



F_AUDIO

Audio Connector: CD_IN

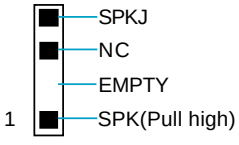
CD_IN is Sony standard CD audio connectors, to receive audio input from the CD-ROM, attach its audio connector to the CD_IN audio connectors on the motherboard.



CD_IN

Speaker Connector: SPEAKER

The speaker connector is used to connect speaker of the chassis.

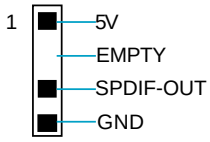


SPEAKER

S/PDIF Out Connector: SPDIF_OUT

The S/PDIF out connector is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby digital decoder.

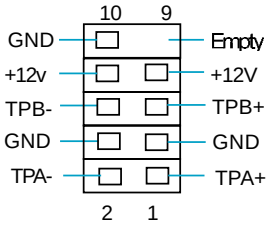
Note: The empty pin of SPDIF cable should be aligned to empty pin of SPDIF out connector.



SPDIF_OUT

1394 Connector: F_1394 (optional)

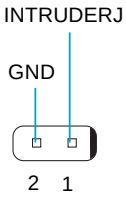
The 1394 expansion cable can be connected to either the front (provided that the front panel of your chassis is equipped with the appropriate interface) or the rear panel of the chassis.



F_1394

Chassis Intruder Connector: INTRUDER

The connector connects to the chassis security switch on the case. The system can detect the chassis intrusion through the status of this connector. If the connector has been closed once, the system will send a message. To utilize this function, set “Intruder Detection” to “Enabled” in the “Power Management Setup” section of the CMOS Setup. Save and exit, then boot the operating system once to make sure this function takes effect.



INTRUDER

Expansion Slots

This motherboard includes three 32-bit Master PCI bus slots and three PCI Express x1 slots, and one PCI Express x16 slot.

PCI Slots

The expansion cards can be installed in the three PCI slots. When you install or remove such cards, please make sure that the power cord has been unplugged from the power supply. Please read carefully the instructions provided for such cards, then install and set the necessary hardware and software for such cards, such as the jumper or BIOS settings.

PCI Express Slots

PCI Express will offer the following design advantages over the PCI and AGP interface:

-Compatible with existing PCI drivers and software and Operating Systems.
-High Bandwidth per Pin. Low overhead. Low latency.
-PCI Express supports a raw bit-rate of 2.5GB/s on the data pins. This results in a real bandwidth per pair of 250MB/s.
-A point to point connection, allows each device to have a dedicated connection without sharing bandwidth.
-Ability to comprehend different data structure.
-Low power consumption and power management features.

PCI Express will take two forms, x16 and x1 PCI Express slots. Whereas the x16 slot is reserved for graphic/video cards, the x1 slots are designed to accommodate less bandwidth-intensive cards, such as a modem or LAN card.

The difference in bandwidth between the x16 and x1 slots are notable to be sure, with the x16 slot pushing 4 GB/sec (8 GB/sec concurrent) of bandwidth, and the x1 PCI Express slot offering 250 MB/sec.

Warning:

If a performance graphics card was installed to 16x PCI Express slot, 2x12 pin power supply was strongly recommended, since that card maybe drawn 75W power.

Graphics Cards Qualified Vendor List

The following table lists the graphics cards that have been tested and qualified for use with this motherboard.

Vendor	Type	Video Memory
NVIDIA GeForce 6200	GeForce 6200	128MB
WinFast GeForce X6600	GeForce6600	128MB
ATI REDION X300SE	Radeon x300	128MB
WinFast GeForce X5750	GeForce 5750	256MB
GeForce PCX 5300	GeForce PCX 5300	128MB
ASUS GeForce EN5900	GeForce PCX5900	128MB
ASUS Radeon X600SE	Radeon X600 pro	128MB

Note:

Make sure to use only the tested and qualified graphics cards listed above. Other graphics cards manufactured by other vendors may not be suitable for this motherboard.

Jumpers

Users can change the jumper settings on this motherboard if necessary. This section explains how to use the various functions of this motherboard by changing the jumper settings. Users should read the following contents carefully prior to modifying any jumper settings.

Description of Jumpers

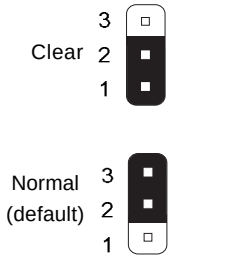
1. For the jumpers on this motherboard, pin 1 can be identified by the silk-screen printed "△" next to it. However, in this manual, pin 1 is simply labeled as "1".
2. The following table provides some explanations of the jumper pin settings. Users should refer to the table while adjusting jumper settings.

Jumper	Diagram	Definition	Description
		1-2	Set pin 1 and pin 2 closed
		2-3	Set pin 2 and pin 3 closed
		Closed	Set the pin closed
		Open	Set the pin opened

Clear CMOS Jumper: J2H1

This motherboard uses the CMOS RAM to store all the set parameters. The CMOS can be cleared by removing the CMOS jumper. Reference the following process.

1. Turn off the AC power supply and short pins 1 and 2 on the jumper.
2. Return the jumper to the normal setting (locking pins 2 and 3 together with the jumper cap).
3. Turn on the system. The BIOS is returned to the default settings.



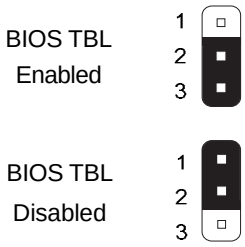
Clear CMOS Jumper

Warning:

1. Disconnect the power cable before adjusting the jumper settings.
2. DO NOT clear the CMOS while the system is turned on.

BIOS TBL Enable Jumper: JP1

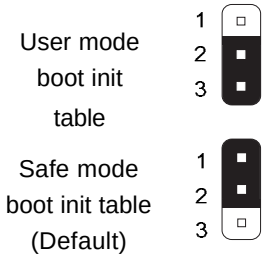
The system cannot boot, if the BIOS failed to be flashed in conventional flash BIOS process. You will have no such worry when using the BIOS TBL function, which is used to protect BIOS "Top Boot Block". By using this function, the system still can boot even if the flash BIOS fails and show some information to recover the BIOS. To utilize this function, you just leave this jumper as "enabled" (short pin 2 and 3 with the jumper cap).



BIOS TBL ENABLE Jumper

ROM Table Select Jumper: J1B1

This jumper is used to select between a user table and a safe table for booting initialization parameters.



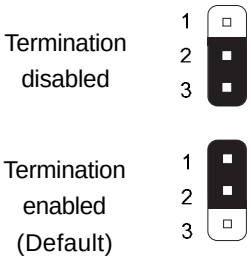
ROM TABLE SELECT Jumper

Warning:

The following four jumpers set only for technical support. We strongly recommend that users not make any change to these jumpers, otherwise it may cause serious damage to the board. The function descriptions herein are just for your reference only.

Termination Enable Jumper: J3A2

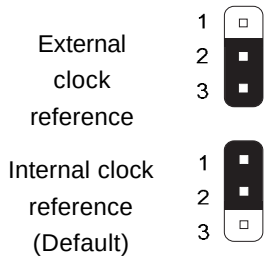
This jumper is used to enable or disable internal differential termination for PCI Express reference clock input pins.



Termination Enable Jumper

PEX PLL REFCLK Select Jumper: J3A1

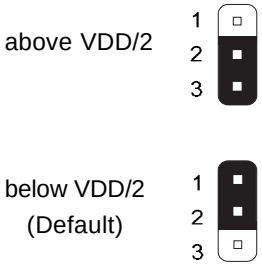
This jumper is used to select the resource for PCI Express PLL reference clock.



PE_REFCLK Select Jumper

PEX REFCLK Jumper: J1G1

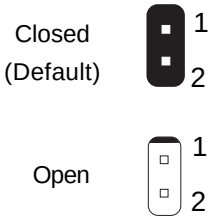
This jumper is used to select common-mode level range for PCI Express external reference clock input pins.



PEX REFCLK Jumper

Recovery Jumper: J1E1

This jumper is reserved for technology support, please do not change the jumper.



Recovery Jumper

Chapter 3

This chapter tells how to change system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

You have to run the Setup Program when the following cases occur:

1. An error message appears on the screen during the system POST process.
2. You want to change the default CMOS settings.

This chapter includes the following information:

- Enter BIOS Setup
- Main Menu
- Standard CMOS Features
- BIOS Features
- Advanced BIOS Features
- Advanced Chipset Features
- Integrated Peripherals
- Power Management Setup
- PnP/PCI Configurations
- PC Health Status (O.T.S)
- X-BIOS I I <Over Clocking>
- Load Best Defaults
- Set Supervisor/User Password
- Save & Exit Setup
- Exit Without Saving

Enter BIOS Setup

The BIOS is the communication bridge between hardware and software, correctly setting up the BIOS parameters is critical to maintain optimal system performance. Power on the computer, when the following message briefly appears at the bottom of the screen during the POST (Power On Self Test), press the <Del> key to enter the Award BIOS CMOS Setup Utility.

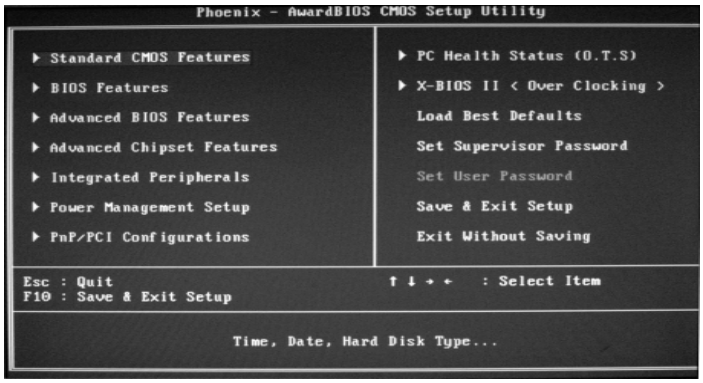
Press TAB to show POST screen, DEL to enter SETUP, ESC to Enter Boot Menu.

Note:

We do not suggest that you change the default parameters in the BIOS Setup, and we shall not be responsible for any damage that results from any changes that you make.

Main Menu

The main menu allows you to select from the list of setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to accept or go to the sub-menu.



Main Menu

The items in the BIOS Setup main menu are explained below:

Standard CMOS Features

The basic system configuration can be set up through this menu.

BIOS Features

The general system feature can be set up through this menu.

Advanced BIOS Features
The advanced system features can be set up through this menu.

Advanced Chipset Features
The values for the chipset can be changed through this menu, and the system performance can be optimized.

Integrated Peripherals
All onboard peripherals can be set up through this menu.

Power Management Setup
All the items of Green function features can be set up through this menu.

PnP/PCI Configurations
The system's PnP/PCI settings and parameters can be modified through this menu.

PC Health Status (O.T.S)
This will display the current status of your PC.

X-BIOS II <Over Clocking>
Frequency and voltage settings can be adjusted through this menu.

Load Best Defaults
The optimal performance settings can be loaded through this menu, however, the stable default values may be affected.

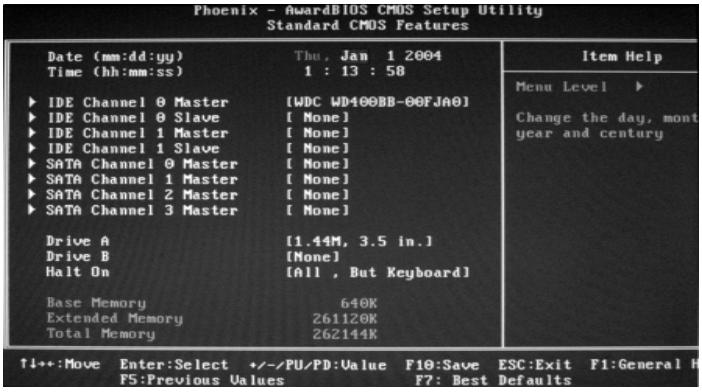
Set Supervisor/User Password
The supervisor/user password can be set up through this menu.

Save & Exit Setup
Save CMOS value settings to CMOS and exit setup.

Exit Without Saving
Abandon all CMOS value changes and exit setup.

Standard CMOS Features

This sub-menu is used to set up the standard CMOS features, such as the date, time, HDD model and so on. Use the arrow keys select the item to set up, and then use the <PgUp> or <PgDn> key to choose the setting values.


Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Date (mm:dd:yy) Thu, Jan 1 2004
Time (hh:mm:ss) 1 : 13 : 58
IDE Channel 0 Master [WDC WD400BB-00FJA0]
IDE Channel 0 Slave [None]
IDE Channel 1 Master [None]
IDE Channel 1 Slave [None]
SATA Channel 0 Master [None]
SATA Channel 1 Master [None]
SATA Channel 2 Master [None]
SATA Channel 3 Master [None]
Drive A [1.44M, 3.5 in.]
Drive B [None]
Halt On [All , But Keyboard]
Base Memory 640K
Extended Memory 261120K
Total Memory 262144K
Item Help
Menu Level
Change the day, mont
year and century
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General H
F5:Previous Values F7: Best Defaults

Standard CMOS Features Menu

Date

This option allows you to set the desired date (usually as the current date) with the <day><month><date><year> format.

day	weekday from Sun. to Sat., defined by BIOS (read-only).
month	month from Jan. to Dec.
date	date from 1st to 31st, can be changed by using the keyboard.
year	year, set up by users.

Time

This option allows you to set up the desired time (usually as the current time) with <hour><minute><second> format.

IDE Channel 0/1/ Master/Slave & SATA Channel 0/1/2/3 Master

These categories identify the HDD types of 2 IDE channels installed in the computer system. There are three choices provided for the Enhanced IDE BIOS: None, Auto, and Manual. “None” means no HDD device is installed or set; “Auto” indicates the system can automatically detect and configure the hard disk when booting up; If it fails to find a device, choose “Manual” and change Access Mode to “CHS”, then manually configure the drive by entering the characteristics of the drive directly from the keyboard and pressing < Enter>:

Cylinder	number of cylinders	Head	number of heads
Precomp	write pre-compensation	Landing Zone	Landing Zone
Sector	number of sectors		

Award (Phoenix) BIOS can support 4 HDD modes: CHS, LBA and Large or Auto mode.

CHS	For HDD<528MB
LBA	For HDD>528MB & supporting LBA (Logical Block Addressing)
Large	For HDD>528MB but not supporting LBA
Auto	Recommended mode

Drive A/B

This option allows you to select the kind of FDD to be installed, including [None], [360K, 5.25in], [1.2M, 5.25in], [720K, 3.5in], [1.44M, 3.5in] and [2.88 M, 3.5in].

Halt On

This category determines whether or not the computer will stop if an error is detected during powering up.

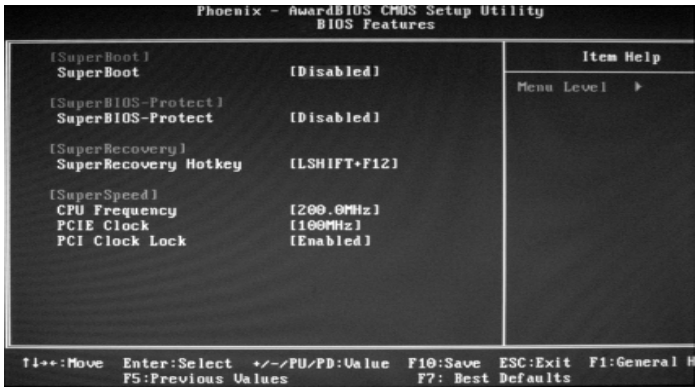
All Errors	Whenever the BIOS detects a nonfatal error, the system will stop and you will be prompted.
No Errors	The system boot will not stop for any errors that may be detected.
All, But Keyboard	The system boot will not stop for a keyboard error; but it will stop for all other errors.
All, But Diskette	The system boot will not stop for a diskette error; but it will stop for all other errors.
All, But Disk/Key	The system boot will not stop for a keyboard or a disk error, but it will stop for all other errors.

Memory

This is a Displays-Only Category, determined by POST (Power On Self Test) of the BIOS.

Base Memory	The BIOS POST will determine the amount of base (or conventional) memory installed in the system.
Extended Memory	The BIOS determines how much extended memory is present during the POST.
Total Memory	Total memory of the system.

BIOS Features



BIOS Features Menu

❖ **[SuperBoot] SuperBoot (Default: Disabled)**

SuperBoot allows system-relevant information to be stored in CMOS upon the first normal start-up of your PC, and the relevant parameters will be restored to help the system start up more quickly on each subsequent start-up. The available setting values are: Disabled and Enabled.

❖ **[SuperBIOS-Protect] SuperBIOS-Protect (Default: Disabled)**

SuperBIOS-Protect function protects your PC from being affected by viruses, e.g. CIH. The available setting values are: Disabled and Enabled.

❖ **[SuperRecovery] SuperRecovery Hotkey (Default: LSHIFT+F12)**

SuperRecovery provides the users with an excellent data protection and HDD recovery function. There are 12 optional hotkey and the default hotkey is LSHIFT+F12.

❖ **[SuperSpeed] CPU Frequency (Depending on the specification of the CPU)**

The conventional overclock method uses the jumpers on the motherboard, and it is both troublesome and apt to errors. By using SuperSpeed, a CPU can be overclocked by keying in the desired in the CPU frequency range.

PCIE Clock (Depending on the specification of the PCIE)

It is used to set PCI express clock.

PCI Clock Lock (Depending on the specification of the PCI)

It is used to set PCI clock.

Warning:

Make sure your selection is right. Overclocking CPU/PCIE/PCI can adversely affect the reliability of the system and introduce errors into your system. We will not be responsible for any damages caused.

Advanced BIOS Features

Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features
Removable Device Priority [Press Enter]
Hard Disk Boot Priority [Press Enter]
CD-ROM Boot Priority [Press Enter]
Virus Warning [Disabled]
CPU Internal Cache [Enabled]
External Cache [Enabled]
First Boot Device [Removable]
Second Boot Device [Hard Disk]
Third Boot Device [CDROM]
Boot Other Device [Enabled]
Swap Floppy Drive [Disabled]
Boot Up Floppy Seek [Disabled]
Boot Up NumLock Status [On]
Gate A20 Option [Fast]
Typematic Rate Setting [Disabled]
Typematic Rate (Chars/Sec) 6
Typematic Delay (Msec) 250
Security Option [Setup]
APIC Mode [Enabled]
Item Help
Menu Level
Select Removable Boot Device Priority
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F7: Best Defaults

Advanced BIOS Features Menu

❖Removable Device Priority

This option is used to select the priority for removable device start-up. After pressing <Enter>, you can select the removable device using the <PageUp>/<PageDn> or Up/Down arrow keys, and change the removable device priority using <+> or <->. To exit this option, press <Esc>.

❖Hard Disk Boot Priority

This option is used to select the priority for HDD start-up. After pressing <Enter>, you can select the HDD using the <PageUp>/<PageDn> or Up/Down arrow keys, and change the HDD priority using <+> or <->. To exit this option, press <Esc>.

❖CDROM Boot Priority

This option is used to select the priority for CDROM start-up. After pressing <Enter>, you can select the CDROM using the <PageUp>/<PageDn> or Up/Down arrow keys, and change the CDROM priority using <+> or <->. To exit this option, press <Esc>.

❖Virus Warning (Default: Disabled)

This option is used to set up the virus warning message for the IDE HDD boot sector. When enabled, a warning message will appear on the screen if any program intends to write information to the boot sector. The available setting values are: Disabled and Enabled.

Note: Such function provides protection to the start-up sector only; it does not protect the entire hard disk.

❖CPU Internal Cache (Default: Enabled)

This item is used to turn on or off the CPU internal cache. Leave this item at the default value for better performance.

❖**External Cache (Default: Enabled)**
This item is used to turn on or off the CPU external cache. Leave this item at the default value for better performance.

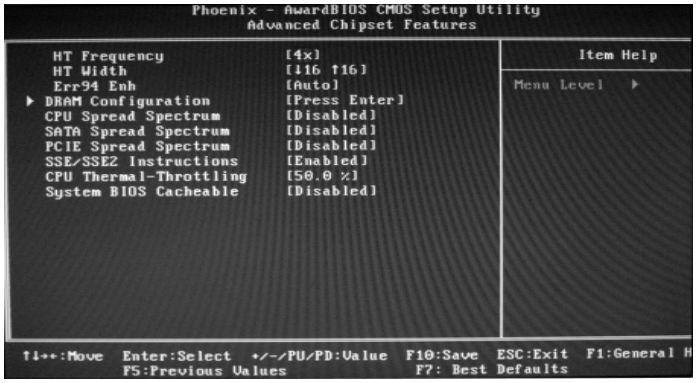
❖**First/Second/Third Boot Device (Default: Removable/Hard Disk/CDROM)**
This option allows you to set the boot device sequence. The available setting values are: Removable, Hard Disk, CDROM, Legacy LAN and Disabled.

❖**Boot Other Device (Default: Enabled)**
With this function set to Enabled, the system will boot from some other devices if the first/second/third boot devices failed. The available setting values are: Disabled and Enabled.

❖**Security Option (Default: Setup)**
When it is set to Setup, a password is required to enter the CMOS Setup screen; when it is set to System, a password is required not only to enter CMOS Setup, but also to start up your PC.

❖**Small Logo (EPA) Show (Default: Disabled)**
This item allows you to enable or disable the EPA logo.

Advanced Chipset Features



Advanced Chipset Features Menu

❖**DRAM Configuration**

Press <Enter> to set the items about DRAM Configuration. Please refer to page 35.

❖**CPU Spread Spectrum (Default: Disabled)**

If you enable CPU spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.

❖**SATA Spread Spectrum (Default: Disabled)**

If you enable SATA spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.

❖**PCIE Spread Spectrum (Default: Disabled)**

If you enable PCI express spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.

❖**SSE/SSE2 Instructions (Default: Enabled)**

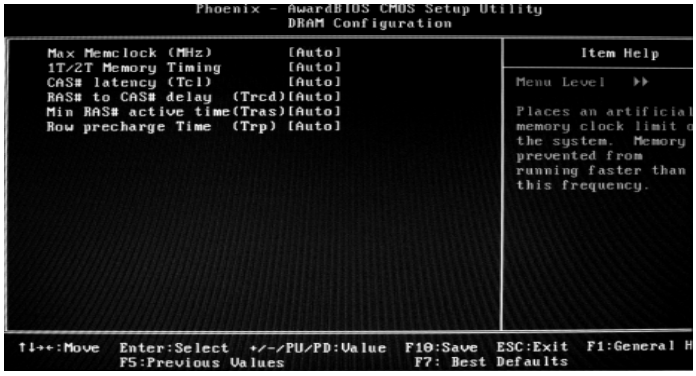
It is used to set enable or disable Intel SSE/SSE2 instructions.

❖**CPU Thermal-Throttling (Default: 50.0%)**

This item is used to specify the CPU speed (at percentage) to slow down the CPU when it reaches the predetermined overheat temperature.

❖**System BIOS Cacheable (Default: Disabled)**

Select “Enabled” to allow catching of the system BIOS which may improve performance. If any other program writes to this memory area, a system error may result. The available setting values are: Disabled and Enabled.


Phoenix - AwardBIOS CMOS Setup Utility
DRAM Configuration
Max Memclock (MHz) [Auto]
1T/2T Memory Timing [Auto]
CAS# latency (Tcl) [Auto]
RAS# to CAS# delay (Trcd) [Auto]
Min RAS# active time(Tras) [Auto]
Row precharge Time (Trp) [Auto]
Item Help
Menu Level ▸▸
Places an artificial memory clock limit on the system. Memory prevented from running faster than this frequency.
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General H
F5:Previous Values F7: Best Defaults

DRAM Configuration Menu

❖**Max Memclock (MHz) (Default: Auto)**

User can place an artificial memory clock limit on the system. Memory is prevented from running faster than this frequency.

❖**1T/2T Memory Timing (Default: Auto)**

This setting controls the SDRAM command rate. Selecting [Auto] allows SDRAM signal controller to run at 1T (T=clock cycles) rate. Selecting [1T] makes SDRAM signal controller run at 2T rate. 1T is faster than 2T.

❖**CAS# Latency (Tcl) (Default: Auto)**

This option controls the CAS latency, which determines the timing delay (in clock cycles) before SDRAM starts a read command after receiving it.

❖**RAS# to CAS# delay (Trcd) (Default: Auto)**

When DRAM is refreshed, both rows and columns are addressed separately. This setup item allows you to determine the timing of the transition from RAS (row address strobe) to CAS (column address strobe). The less the clock cycles, the faster the DRAM performance.

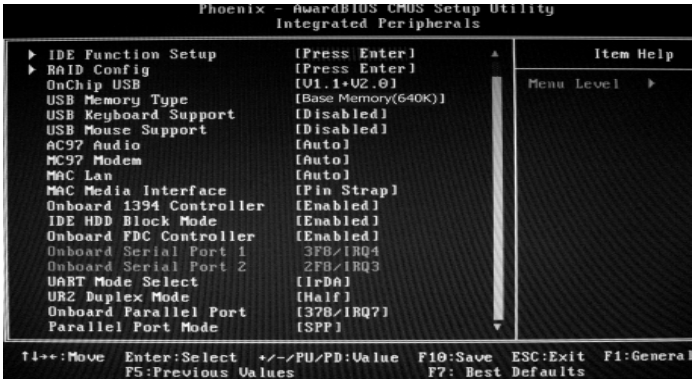
❖**Min RAS# active time (Tras) (Default: Auto)**

This setting determines the time RAS takes to read from and write to a memory cell.

❖**Row Precharge Time (Trp) (Default: Auto)**

This item controls the number of cycles for Row Address Strobe (RAS) to be allowed to precharge. If insufficient time is allowed for the RAS to accumulate its charge before DRAM refresh, refreshing may be incomplete and DRAM may fail to retain data. This item applies only when synchronous DRAM is installed in the system.

Integrated Peripherals


Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals
IDE Function Setup [Press Enter]
RAID Config [Press Enter]
OnChip USB [V1.1+V2.0]
USB Memory Type [Base Memory(640K)]
USB Keyboard Support [Disabled]
USB Mouse Support [Disabled]
AC97 Audio [Auto]
MC97 Modem [Auto]
MAC Lan [Auto]
MAC Media Interface [Pin Strap]
Onboard 1394 Controller [Enabled]
IDE HDD Block Mode [Enabled]
Onboard FDC Controller [Enabled]
Onboard Serial Port 1 3F8/IRQ4
Onboard Serial Port 2 2F8/IRQ3
UART Mode Select [IrDA]
URZ Duplex Mode [Half]
Onboard Parallel Port [378/IRQ7]
Parallel Port Mode [SPP]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General
F5:Previous Values F7: Best Defaults

Integrated Peripherals Menu

❖IDE Function Setup

Press <Enter> to set the items about IDE function. Please refer to page 37.

❖RAID Config

Press <Enter> to set RAID Config. Please refer to page 38.

❖Onchip USB (Default: V1.1+V2.0)

This item is used to enable or disable the onboard USB controller. Selecting V1.1+V2.0 enables the system to support both USB 1.1 and USB 2.0 specification.

❖USB Keyboard/Mouse Support (Default: Disabled)

These items are used to set whether the USB keyboard/mouse controller is enabled in a legacy operating system (such as DOS).

❖AC97 Audio (Default: Auto)

This option is used to set whether onboard AC97 Audio is enabled. Disabled the controller if you want to use other controller cards to connect an audio device.

❖MC97 Modem (Default: Auto)

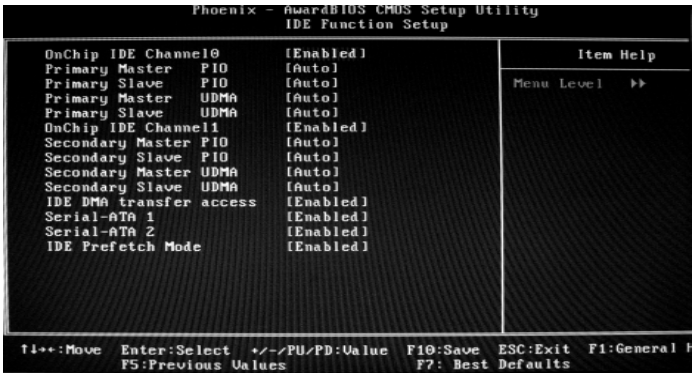
This item is used to set whether onboard MC97 modem is enabled.

❖MAC Lan (Default: Auto)

Setting to Auto allows the BIOS to auto-detect the NVIDIA LAN controller and enable it.

❖Onboard 1394 Controller (Default: Enabled)

This item allows you to enable or disable the onboard IEEE 1394 controller.


Phoenix - AwardBIOS CMOS Setup Utility
IDE Function Setup
OnChip IDE Channel0 [Enabled]
Primary Master PIO [Auto]
Primary Slave PIO [Auto]
Primary Master UDMA [Auto]
Primary Slave UDMA [Auto]
OnChip IDE Channel1 [Enabled]
Secondary Master PIO [Auto]
Secondary Slave PIO [Auto]
Secondary Master UDMA [Auto]
Secondary Slave UDMA [Auto]
IDE DMA transfer access [Enabled]
Serial-ATA 1 [Enabled]
Serial-ATA 2 [Enabled]
IDE Prefetch Mode [Enabled]
Item Help
Menu Level ▸▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General
F5:Previous Values F7: Best Defaults

IDE Function Setup Menu

❖**OnChip IDE Channel 0 (Default: Enabled)**

This option is used to set the onchip IDE channel 0/1. The available setting are: Disabled and Enabled.

❖**Primary/Secondary Master/Slave PIO (Default: Auto)**

These two items let you assign which kind of PIO (Programmer Input/Output) is used by IDE devices. Choose “Auto” to let the system auto detect which PIO mode is best, or select a PIO mode from 0-4.

❖**Primary/Secondary Master/Slave UDMA (Default: Auto)**

UltraDMA technology provides faster access to IDE devices. If you install a device that supports UltraDMA, change the appropriate items on this list to Auto. The available setting values are: Disabled and Auto.

❖**IDE DMA transfer access (Default: Enabled)**

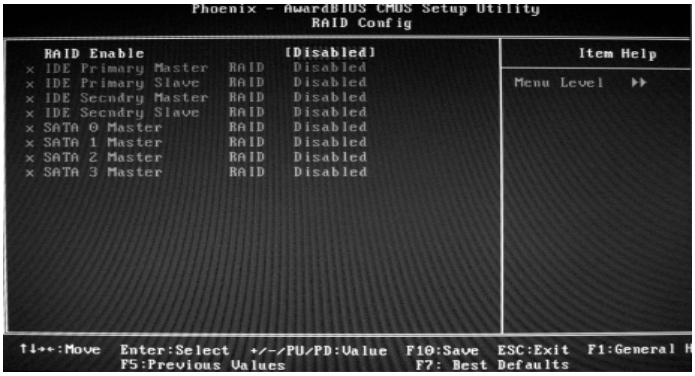
This option is used to enable or disable IDE DMA transfer access.

❖**Serial-ATA 1/2 (Default: Enabled)**

This option is used to enable or disable Serial-ATA 1/2.

❖**IDE Prefetch Mode (Default: Enabled)**

This option is used to enable or disable IDE Prefetch Mode.


Phoenix - AwardBIOS CMOS Setup Utility
RAID Config
RAID Enable [Disabled]
x IDE Primary Master RAID Disabled
x IDE Primary Slave RAID Disabled
x IDE Secndry Master RAID Disabled
x IDE Secndry Slave RAID Disabled
x SATA 0 Master RAID Disabled
x SATA 1 Master RAID Disabled
x SATA 2 Master RAID Disabled
x SATA 3 Master RAID Disabled
Item Help
Menu Level ▸▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General H
F5:Previous Values F7: Best Defaults

RAID Config Menu

❖**RAID Enable (Default: Disabled)**

This item is available for you to enable or disable the onboard RAID function.

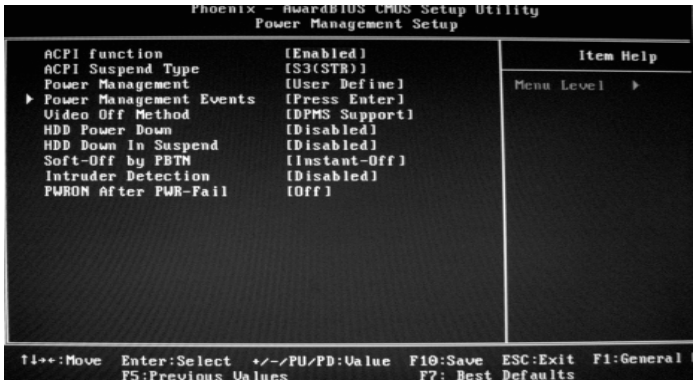
❖**IDE Primary/Secondary/Mater/Slave RAID (Default: Disabled)**

These features allow user to enable or disable the RAID function for each IDE hard disk drive.

❖**SATA 0/1/2/3 Master RAID (Default: Disabled)**

These features allow user to enable or disable the RAID function for each SATA hard disk drive.

Power Management Setup


Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup
ACPI function [Enabled]
ACPI Suspend Type [S3(STR)]
Power Management [User Define]
Power Management Events [Press Enter]
Video Off Method [DPMS Support]
HDD Power Down [Disabled]
HDD Down In Suspend [Disabled]
Soft-Off by PBTN [Instant-Off]
Intruder Detection [Disabled]
PWRON After PWR-Fail [Off]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General
F5:Previous Values F7: Best Defaults

Power Management Setup Menu

❖ **ACPI function (Default: Enabled)**

ACPI stands for “Advanced Configuration and Power Interface”. ACPI is a standard that defines power and configuration management interfaces between an operating system and the BIOS. In other words, it is a standard that describes how computer components work together to manage system hardware. In order to use this function the ACPI specification must be supported by the OS (for example, Windows2000 or WindowsXP). The available setting values are: Enabled and Disabled.

❖ **ACPI Suspend Type (Default: S3(STR))**

This option is used to set the energy saving mode of the ACPI function. When you select “S1 (POS)” mode, the power will not shut off and the supply status will remain as it is, in S1 mode the computer can be resumed at any time. When you select “S3 (STR)” mode, the power will be cut off after a delay period. The status of the computer before it enters STR will be saved in memory, and the computer can quickly return to the previous status when the STR function wakes. When you select “S1 & S3” mode, the system will automatically select the delay time.

❖ **Power Management (Default: User Define)**

This option is used to set the power management scheme. Available settings are: User Define, Min Saving and Max Saving.

❖ **Power Management Events**

Press <Enter> to set Power Management Events. Please refer to page 41.

❖ **Soft-Off by PBTN (Default: Instant-Off)**

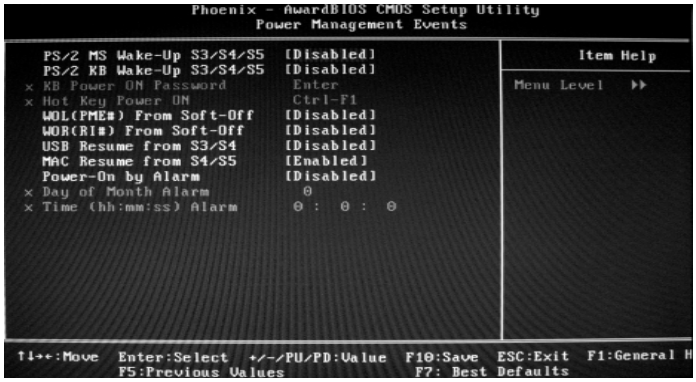
This item is used to set the power down method. This function is only valid for systems using an ATX power supply.
When “Instant-Off” is selected, press the power switch to immediately turn off power. When “Delay 4 Sec.” is selected, press and hold the power button for four seconds to turn off power.

❖ **Intruder Detection (Default: Disabled)**

This item enables or disables the features of recording the chassis intrusion status and issuing a warning message if the chassis is once opened.

❖ **PWRON After PWR-Fail (Default: Off)**

This option is used to set what action the PC will take with the power supply when it resumes after a sudden power failure. The available options are: Off (remain in turn off status),On (auto power on) and Former-Sts (resume with the previous status).


Phoenix - AwardBIOS CMOS Setup Utility
Power Management Events
PS/2 MS Wake-Up S3/S4/S5 [Disabled]
PS/2 KB Wake-Up S3/S4/S5 [Disabled]
x KB Power ON Password Enter
x Hot Key Power ON Ctrl-F1
WOL(PME#) From Soft-Off [Disabled]
WOR(RI#) From Soft-Off [Disabled]
USB Resume from S3/S4 [Disabled]
MAC Resume from S4/S5 [Enabled]
Power-On by Alarm [Disabled]
x Day of Month Alarm 0
x Time (hh:mm:ss) Alarm 0 : 0 : 0
Item Help
Menu Level ▸▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General H
F5:Previous Values F7: Best Defaults

Power Management Events Setup Menu

❖ **PS/2 MS WakeUp S3/S4/S5 (Default: Disabled)**

This option is used to set the wake up by PS/2 mouse. The setting values are: Disabled, Any Action, Double Click.

❖ **PS/2 KB WakeUp S3/S4/S5 (Default: Disabled)**

This option is used to set the wake up by PS/2 keyboard. The setting values are: Disabled, Password, Hot KEY, Any KEY, Keyboard 98.

❖ **KB Power ON Password (Default: Enter)**

When the PS/2 KB WakeUp S3/S4/S5 set as Password, use this item to set the password.

❖ **Hot Key WakeUp (Default: Ctrl-F1)**

When the PS/2 KB Wake Up S3/S4/S5 set as Hot KEY, use this item to set the hot key combination that turns on the system. The available setting values are: Ctrl+F1-F12.

❖ **WOL (PME#) From Soft-Off (Default: Disabled)**

When set to Enabled, the feature allows your system to be awakened from the power saving modes through any event on PME (Power Management Event)

❖ **WOR (RI#) From Soft-Off (Default: Disabled)**

If this item is enabled, it allows the system to resume from a software power down or power saving mode whenever there is an incoming call to an installed fax/modem. This function needs to be supported by the relevant hardware and software.

❖ **USB Resume From S3/S4 (Default: Disabled)**

This item is used to set the system to wake up by USB equipment when it is in S3/S4 mode.

❖ **MAC Resume From S4/S5 (Default: Enabled)**

This item is used to set the system to wake up by MAC equipment when it is in S4/S5 mode.

❖ **Power-On by Alarm (Default: Disabled)**

This item is used to set the timing of the start-up function. In order to use this function, the start-up password function must be cancelled and the PC power source must not be turned off.

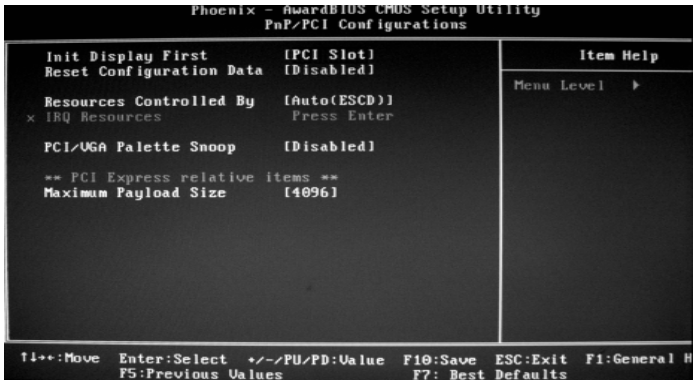
❖ **Day of Month Alarm**

When the Power-On by Alarm set as Enabled, this option will be modified. It is used to set the timing for the start-up date.

❖ **Time (hh:mm:ss) Alarm**

When the Power-On by Alarm set as Enabled, this option will be modified. It is used to set the timing for the start-up time.

PnP/PCI Configurations


Phoenix - AwardBIOS CMOS Setup Utility
PnP/PCI Configurations
Init Display First [PCI Slot]
Reset Configuration Data [Disabled]
Resources Controlled By [Auto(ESCD)]
x IRQ Resources Press Enter
PCI/VGA Palette Snoop [Disabled]
** PCI Express relative items **
Maximum Payload Size [4096]
Item Help
Menu Level ▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General H
F5:Previous Values F7: Best Defaults

PnP/PCI Configurations Menu

❖ **Init Display First (Default: PCI Slot)**

This option is used to set which display device will be used first when your PC starts up. The available setting values are: PCI Slot, PCIEx.

❖ **Reset Configuration Data (Default: Disabled)**

This option is used to set whether the system is permitted to automatically distribute IRQ DMA and I/O addresses each time the machine is turned on. The setting values are: Disabled and Enabled.

❖ **Resources Controlled By (Default: Auto (ESCD))**

This option is used to define the system resource control scheme. If all cards you use support PnP, then select Auto (ESCD) and the BIOS will automatically distribute interruption resources. If the ISA cards you installed not supporting PnP, you will need to select “Manual” and manually adjust interruption resources in the event of hardware conflicts. However, since this motherboard has no ISA slot, this option does not apply.

❖ **IRQ Resources**

Press the <Enter> key, then manually set IRQ resources.

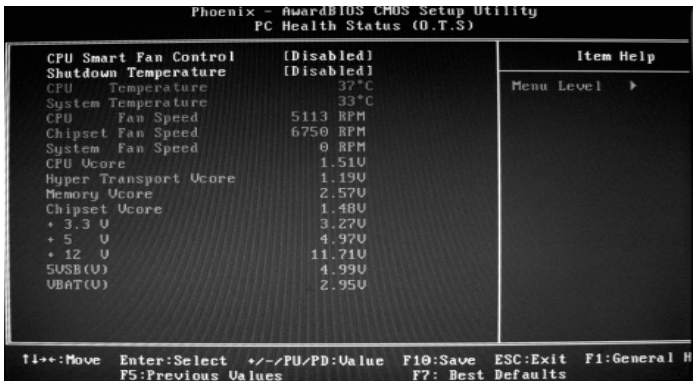
❖ **PCI/VGA Palette Snoop (Default: Disabled)**

If you use a non-standard VGA card, use this option to solve graphic acceleration card or MPEG audio card problems (e.g., colors not accurately displayed). The setting values are: Disabled and Enabled.

❖ **Maximum Payload Size (Default:4096)**

Set maximum TLP payload size for the PCI express devices. The unit is byte.

PC Health Status (O.T.S)



PC Health Status (O.T.S) Menu

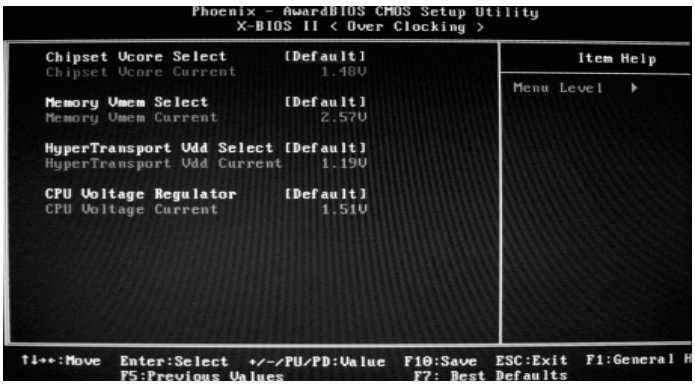
❖ **CPU Smart Fan Control (Default: Disabled)(optional)**

This option is used to enable or disable CPU smart fan function. The setting values are Disabled and Enabled.

❖ **Shutdown Temperature (Default: Disabled)**

This option is used to set the system temperature upper limit. When the temperature exceeds the setting value, the motherboard will automatically cut off power to the computer. The available setting values are: 70°C/158°F, 75°C/167°F, 80°C/176°F, Disabled.

X-BIOS II <Over Clocking>


Phoenix - AwardBIOS CMOS Setup Utility
X-BIOS II < Over Clocking >
Chipset Vcore Select [Default]
Chipset Vcore Current 1.48V
Memory Vmem Select [Default]
Memory Vmem Current 2.57V
HyperTransport Vdd Select [Default]
HyperTransport Vdd Current 1.19V
CPU Voltage Regulator [Default]
CPU Voltage Current 1.51V
Item Help
Menu Level ▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General H
F5:Previous Values F7: Best Defaults

X-BIOS II <Over Clocking> Menu

❖ **Chipset Vcore Select (Default: Default)**

This option is used to select chipset Vcore.

❖ **Memory Vmem Select (Default: Default)**

This option is used to select memory Vmem.

❖ **HyperTransport Vdd Select (Default: Default)**

This option is used to select HyperTransport Vdd.

❖ **CPU Voltage Regulator (Default: Default)**

This option is used to adjust CPU voltage regulator.

Load Best Defaults

Select this option and press <Enter>, it will open a dialogue box that lets you install the optimized defaults for all appropriate items in the Setup Utility. Select <Y> and press <Enter> to load the optimized defaults. Select <N> and press <Enter> to not install. The defaults set by BIOS have set the optimized performance parameters of system to improve the performances of system components. But if the optimized performance parameters to be set cannot be supported by your hardware devices, you can cause fatal errors or instability. If you only want to load the optimized defaults for a specific option, you can select this option and press the <F7> key.

Set Supervisor/User Password

The preferential grade of supervisor password is higher than user password. You can use supervisor password to start into system or enter into CMOS setting program to amend setting. You can also use user password to start into system, or enter into CMOS setting menu to check, but if you have set supervisor password, you cannot amend the setting.
Highlight the item Set Supervisor / User Password on the main menu and press <Enter>. The following password dialog box appears:

Enter Password:

Enter your password, not exceeding 8 characters, then press <Enter>, you will be prompted to confirm the password, type in the password again and press <Enter>.
If you are deleting a password that is already installed, just press <Enter> when the password dialog box appears, and the screen will show a message that indicates this password has been disabled. In this case, you can freely enter into system and CMOS setting program.

PASS WORD DISABLED!!!

Press any key to continue...

Under the menu “Advanced BIOS Features Setup”, if you select “System” in Security Option, the screen will prompt you to enter password once the system is started or you want to enter CMOS setting program. If the password is wrong, it will refuse you to continue.
Under the menu “Advanced BIOS Features Setup”, if you select “Setup” in Security Option, the screen will prompt you to enter password only when you enter CMOS setting program.

Save & Exit Setup

Select this option and press <Enter>, the following message will appear on the screen:

SAVE to CMOS and EXIT (Y/N)?

Press <Y> to save the changes that you have made in the Setup Utility and exit the Setup Utility; press <N>/<ESC> to return to the main menu.

Exit Without Saving

Select this option and press <Enter>, it will show the following message on the screen:

Quit Without Saving (Y/N)?

Press <Y> to discard any changes that you have made in the Setup Utility and exit the Setup Utility; press <N>/<ESC> to return to the main menu.

Chapter 4

The utility CD that came with the motherboard contains useful software and several utility drivers that enhance the motherboard features.

This chapter includes the following information:

- Utility CD content
- Start to install drivers

Utility CD content

This motherboard comes with one Utility CD. To begin using the CD, simply insert the CD into your CD-ROM driver. The CD will automatically display the main menu screen.

1. Install Driver

Using this option to install all the drivers for your motherboard. You should install the drivers sequentially, from first to last.

A. nVIDIA nForce Chipset System B. DirectX 9.0b
C. USB2.0 Driver

2.Accessories

Use this option to install additional software programs.

A. SuperUtility
   a. SuperStep
   Superstep is powerful and easy-to-operate tool for overclocking. You can quickly increase your CPU's working frequency through its user-friendly interface. It will enhance your CPU's performance and meet all kinds of DIY requirements.
   b. SuperLogo
   SuperLogo can display user-designed graphics and pictures, such as a company logo or personal photos, thus making your PC more personalized and friendly.
   c. SuperUpdate
   SuperUpdate function can help to update the BIOS through Internet.
B. Adobe Reader
C. Norton Internet Security
D. Word Perfect Office 12
E. nTune

3. Browse CD

Click to browse this CD.

4. Homepage

Click here to visit Foxconn motherboard homepage.

Start to install drivers

Select <Install Driver> to enter the driver installation menu (as following pic). Click the relevant button to install nVIDIA nForce Chipset System, DirectX 9.0b, USB2.0 Driver.

Chapter 5

This chapter will introduce how to create NVIDIA RAID.

This chapter includes the following information:

- Basic Configuration Instructions
- Setting up BIOS
- Entering the RAID BIOS Setup
- NVIDIA RAID Utility Installation
- Initializing and Using the Disk Array
- Win2K Limitation with Bootable RAID

NVIDIA RAID

RAID Arrays

This section describes the following types of RAID arrays that NVIDIA RAID supports:

• RAID 0

RAID 0 defines a disk striping scheme that improves the disk read and write times for many applications.

• RAID 1

RAID 1 defines techniques for mirroring data.

• RAID 0+1

RAID 0+1 combines the techniques used in RAID 0 and RAID 1 arrays.

• Spanning (JBOD)

JBOD provides a method for combining drives of different sizes into one large disk.

Summary of RAID Configurations

Array	Advantages	Drawbacks	# Hard Disks	Fault Tolerance
RAID 0	High data throughput.	No fault tolerance.	multiple	None
RAID 1	100% data redundancy.	Requires two drives for the storage space of one drive.	2	Yes
RAID 0+1	Optimized for both 100% data redundancy and performance. Allows spare disks.	Requires two drives for the storage space of one drive—the same as RAID level 1.	4+	Yes
JBOD	Combines and uses the capacity of odd size drives.	Decreases performance because of the difficulty in using drives concurrently or to optimize drives for different uses.	multiple	No

Basic Configuration Instructions

The following are the basic steps for configuring NVIDIA RAID:

Non-Bootable RAID Array

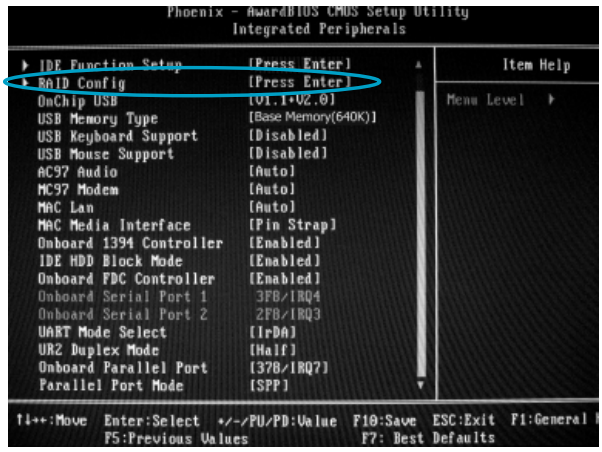
1. Choose the hard disks that are to be RAID enabled in the system BIOS.
2. Specify the RAID level, either Mirroring (RAID 1), Striping (RAID 0), Stripe Mirroring (RAID 0+1), or Spanning (JBOD) and create the desired RAID array.
3. Install the operating system on one hard disk, then reboot the computer.
4. Run the Windows nForce Setup application and install the RAID driver.
5. Initialize the NVRAID Array.

Bootable RAID Array

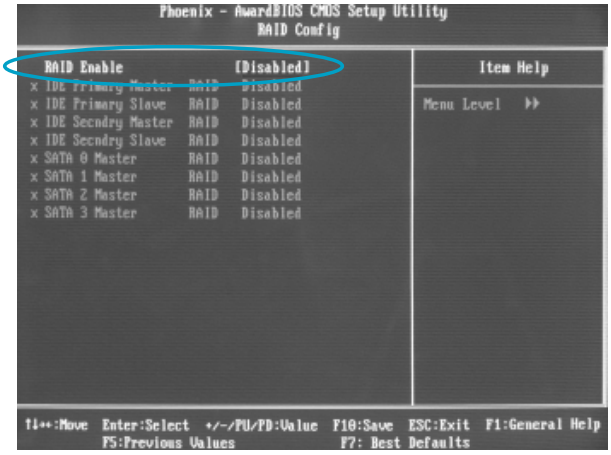
1. Choose the hard disks that are to be RAID enabled in the system BIOS.
2. Specify the RAID level, either Mirroring (RAID 1), Striping (RAID 0), Mirrored Striping (RAID 0+1), or Spanning (JBOD) and create the desired RAID array.
3. Boot from the Windows CD, then press F6 when the Windows Setup appears.
4. Insert the RAID driver floppy to Install the nForce RAID driver.
5. Initialize the NVRAID Array.

Setting Up the BIOS

1. Start up the computer, then press **Delete** to enter the BIOS setup. Use the arrow keys to select **Integrated Peripherals**, then press **Enter**.


Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals
IDE Function Setup [Press Enter]
RAID Config [Press Enter]
OnChip USB [V1.1+V2.0]
USB Memory Type [Base Memory(640K)]
USB Keyboard Support [Disabled]
USB Mouse Support [Disabled]
AC97 Audio [Auto]
MC97 Modem [Auto]
MAC Lan [Auto]
MAC Media Interface [Pin Strap]
Onboard 1394 Controller [Enabled]
IDE HDD Block Mode [Enabled]
Onboard FDC Controller [Enabled]
Onboard Serial Port 1 3F8/IRQ4
Onboard Serial Port 2 2F8/IRQ3
UART Mode Select [IrDA]
URZ Duplex Mode [Half]
Onboard Parallel Port [378/IRQ7]
Parallel Port Mode [SPP]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General
F5:Previous Values F7: Best Defaults

2. Use the arrow keys to select the **RAID Config**, then press **Enter**.


Phoenix - AwardBIOS CMOS Setup Utility
RAID Config
RAID Enable [Disabled]
x IDE Primary Slave RAID Disabled
x IDE Secndry Master RAID Disabled
x IDE Secndry Slave RAID Disabled
x SATA 0 Master RAID Disabled
x SATA 1 Master RAID Disabled
x SATA 2 Master RAID Disabled
x SATA 3 Master RAID Disabled
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Best Defaults

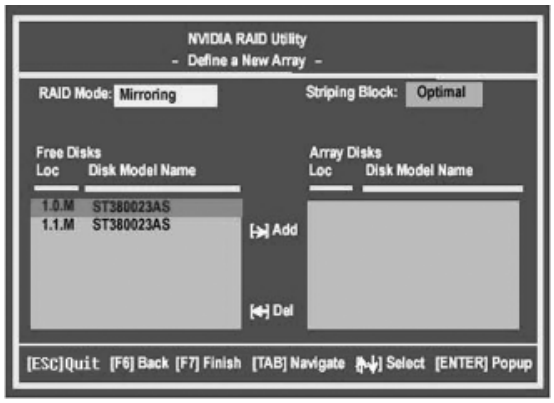
3. From the RAID Config window, enabled the RAID Enable, the other items would be light, then you can enable the disk that you want to use as RAID disks.

4. Press F10 to save the configuration and exit.

Entering the RAID BIOS Setup

1. After rebooting your PC, wait until you see the RAID software prompting you to press **F10**. The RAID prompt appears as part of the system POST and boot process prior to loading OS.

2. Press **F10**, and the NVIDIA RAID Utility --- **Define a New Array** window will appear. The default **RAID Mode** is set to **Mirroring** and the default **Striping Block** is set to **Optimal**.



Understanding the "Define a New Array" Window

Use the Define a New Array window to

- Select the RAID Mode
- Set up the Striping Block
- Specify which disks to use for the RAID Array

Depending on the platform used, the system have one or more channels. In a typical system there are usually one controller and multiple channels, and each channel have a slave and a master.

The channel/controller/master/slave status of each hard disk is given in the Loc (location) columns of the Free Disks and Array Disks lists.

1. 0. M

M: Master

S: Slave

0: Channel

Adapter - adapter 0 is used for PATA drives

1 and above is used for SATA drives.

In the example above, 1.0.M means the hard drive is attached to Channel 1, Controller 0, and the drive is set to Master. The following is a list of all possible combinations:

Parallel ATA

0.0.M Adapter 0, Channel 0, Master
0.0.S Adapter 0, Channel 0, Slave
0.1.M Adapter 0, Channel 1, Master
0.1.S Adapter 0, Channel 1, Slave

Serial ATA

1.0.M Adapter 1, Channel 0, Master
1.1.M Adapter 1, Channel 1, Master
2.0.M Adapter 2, Channel 0, Master
2.1.M Adapter 2, Channel 1, Master

Note: There is no such thing as Slave drive in Serial ATA. All drives are considered to be Master since there is a one to one connection between the drive and the controller.

Using the Define a New Array Window

If necessary, press the tab key to move from field to field until the appropriate field is highlighted.

• Selecting the RAID Mode

By default, this is set to [Mirroring]. Change to a different RAID mode, press the down arrow keys until the mode that you want appears in the RAID Mode box—either [Mirroring], [Striping], [Spanning], or [Stripe Mirroring].

• Selecting the Striping Block Size

Striping Block size is given in kilobytes, and affects how data is arranged on the disk. It is recommended to leave this value at the default [Optimal], which is 32KB, but the values can be between [4 KB] and [128 KB].

• Assigning the Disks

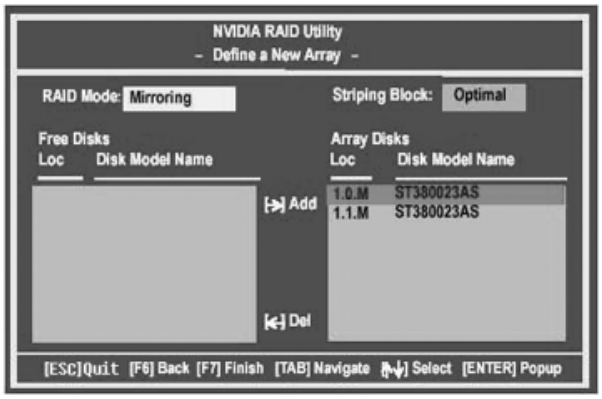
The disks that you enabled from the RAID Config BIOS setup page appear in the **Free Disks** block. These are the drives that are available for use as RAID array.

To designate a free disk to be used as a RAID array:

1. Tab to the F**ree Disks** section. The first disk in the list is selected.

2. Move it from the Free Disks block to the Array Disks block by pressing the right arrow key (→). The first disk in the list is moved, and the next disk in the list is selected and ready to be moved.

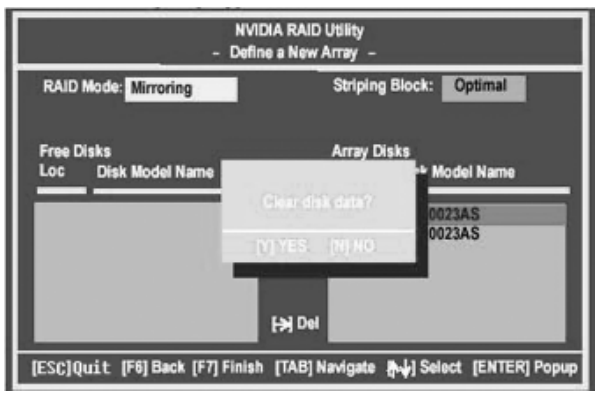
3. Continue pressing the right-arrow key (→) until all the disks that you want to use as RAID array appear in the **Array Disks** block.



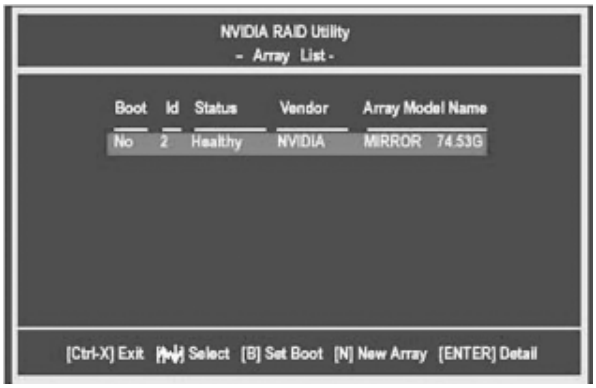
It shows that two disks have been assigned as RAID1 array disks in the figure above.

Completing the RAID BIOS Setup

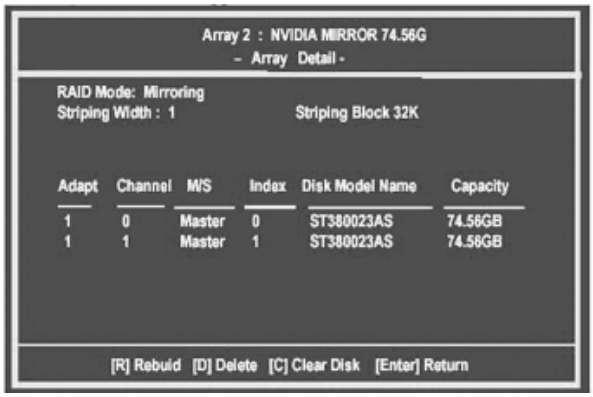
1. After assigning your RAID array mode, press **F7.** The Clear disk data windows prompt appears.



2. Press **Y** if you want to wipe out all the data from the RAID array, otherwise press **N**. You must choose **Yes** if the drives were previously used as RAID drives.
The **Array List** window appears, where you can review the RAID arrays that you have set up.


NVIDIA RAID Utility
- Array List -
Boot Id Status Vendor Array Model Name
No 2 Healthy NVIDIA MIRROR 74.53G
[Ctrl-X] Exit [↑↓] Select [B] Set Boot [N] New Array [ENTER] Detail

3. Use the arrow keys to select the array that you want to set up, then press **Enter.**
The **Array Detail** window appears.


Array 2 : NVIDIA MIRROR 74.56G
- Array Detail -
RAID Mode: Mirroring
Striping Width : 1
Striping Block 32K
Adapt Channel M/S Index Disk Model Name Capacity
1 0 Master 0 ST380023AS 74.56GB
1 1 Master 1 ST380023AS 74.56GB
[R] Rebuild [D] Delete [C] Clear Disk [Enter] Return

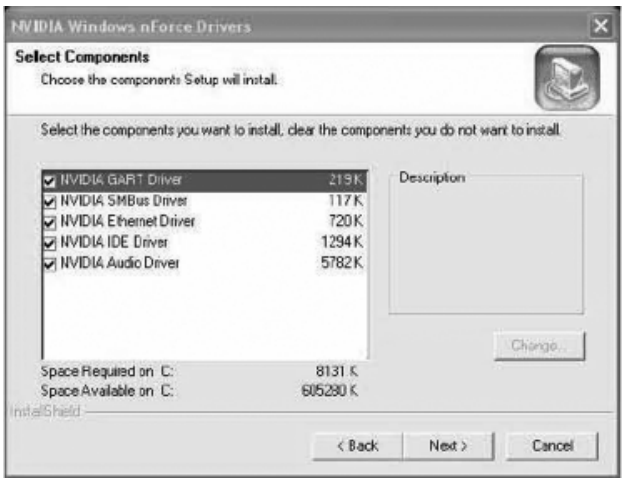
4. If you want to mark this disk as empty and wipe out all its contents then press **C**.
5. At the prompt, press **Y** to wipe out all the data, otherwise press **N**.
6. Press **Enter** again to go back to the previous window and then press **[Ctrl+X]** to exit the RAID setup.

NVIDIA RAID Utility Installation

Installing the NVIDIA RAID Software Under Windows (for Non-bootable RAID Array)

This section describes how to setup the application and install the RAID software which will upgrade the Windows IDE driver and install the RAID driver.

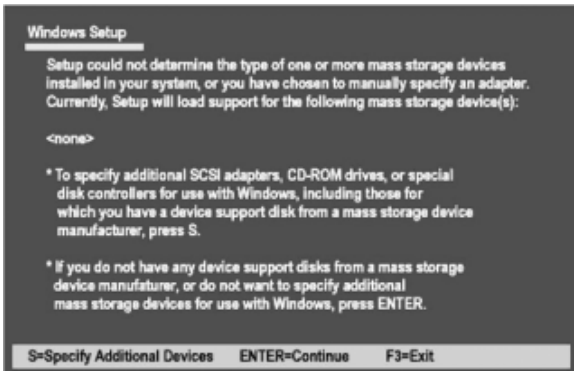
1. Start the nForce Setup program to open the NVIDIA Windows nForce Drivers page.


NVIDIA Windows nForce Drivers
Select Components
Choose the components Setup will install.
Select the components you want to install, clear the components you do not want to install.
NVIDIA GART Driver 219K
NVIDIA SMBus Driver 117K
NVIDIA Ethernet Driver 720K
NVIDIA IDE Driver 1294K
NVIDIA Audio Driver 5782K
Description
Change...
Space Required on C: 8131K
Space Available on C: 605280K
InstallShield
< Back
Next >
Cancel

2. Select the modules that you want to install. Select the relative options that you have configured.
3. Click **Next** and then follow the instructions.
4. After the installation is completed, be sure to reboot the PC.
5. After the reboot, initialize the newly created array.

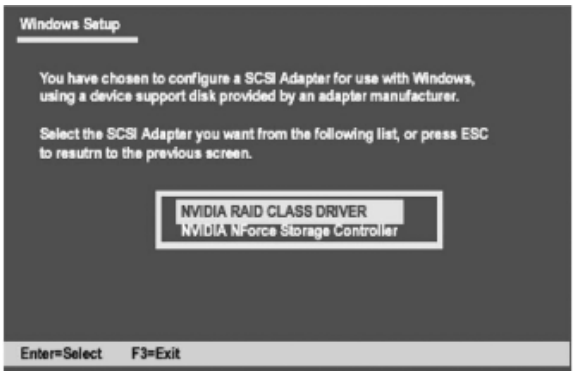
Installing the RAID Driver (for bootable RAID Array)

1. After you complete the RAID BIOS setup, boot from the Windows CD, and the Windows Setup program starts.
2. Press **F6** and wait for the Windows Setup screen to appear.


Windows Setup
Setup could not determine the type of one or more mass storage devices installed in your system, or you have chosen to manually specify an adapter. Currently, Setup will load support for the following mass storage device(s):
<none>
* To specify additional SCSI adapters, CD-ROM drives, or special disk controllers for use with Windows, including those for which you have a device support disk from a mass storage device manufacturer, press S.
* If you do not have any device support disks from a mass storage device manufacturer, or do not want to specify additional mass storage devices for use with Windows, press ENTER.
S=Specify Additional Devices ENTER=Continue F3=Exit

3. Specify the NVIDIA drivers:

(1) Insert the floppy that has the RAID driver, press S, then press Enter. The Windows Setup screen appears as below:


Windows Setup
You have chosen to configure a SCSI Adapter for use with Windows, using a device support disk provided by an adapter manufacturer.
Select the SCSI Adapter you want from the following list, or press ESC to resutrn to the previous screen.
NVIDIA RAID CLASS DRIVER
NVIDIA NForce Storage Controller
Enter=Select F3=Exit

(2) Select “NVIDIA RAID CLASS DRIVER” and then press **Enter**.

(3) Press **S** again at the Specify Devices screen, then press **Enter.**

(4) Select “NVIDIA NForce Storage Controller” and then press **Enter.** The following Windows Setup screen appears listing both drivers:

Windows Setup
Setup will load support for the following mss storage device:
NVIDIA RAID CLASS DRIVER
NVIDIA NForce Storage Controller
* To specify additional SCSI adapters, CD-ROM drives, or special disk controllers for use with Windows, including those for which you have a device support disk from a mass storage device manufacturer, press S.
* If you do not have any device support disks from a mass storage device manufaturer, or do not want to specify additional mass storage devices for use with Windows, press ENTER.
S=Specify Additional Devices ENTER=Continue F3=Exit

4. Press Enter to continue with operating system Installation. Be sure to copy the files from the floppy is complete, then take out the floppy.

5. Follow the instructions on how to install operating system. During the GUI portion of the installation you might be prompted to click Yes to install the RAID driver. Click Yes as many times as needed in order to finish the installation. This will not be an issue with a signed driver.

Note: Each time you add a new hard drive to a RAID array, the RAID driver will have to be installed under Windows once for that hard drive. After that, the driver will not have to be installed.

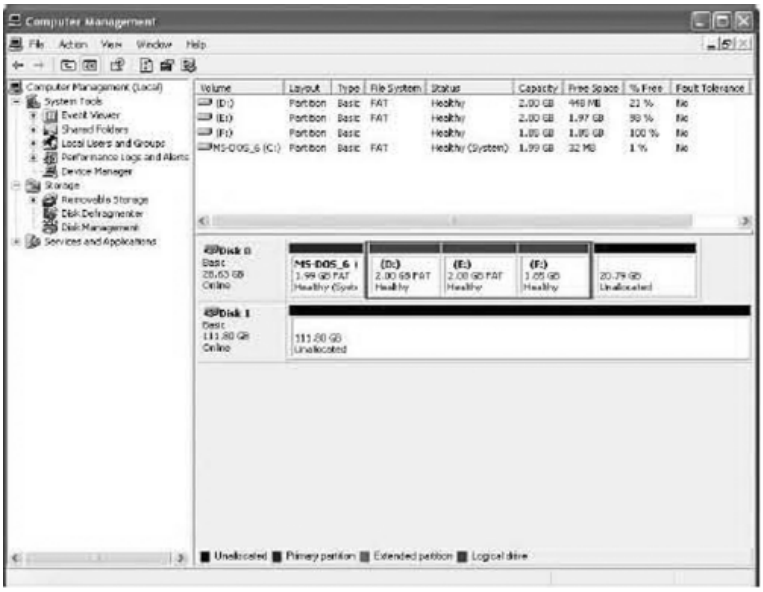
Initializing and Using the Disk Array

The RAID array is now ready to be initialized under Windows.

1. Launch Computer Management by clicking “Start” —> “Settings” —> “Control Panel” then open the “Administrative Tools” folder and double click on “Computer Management”.

Initialize and Convert Disk Wizard
Welcome to the Initialize and Convert Disk Wizard
This wizard helps you to initialize new disks and to convert empty basic disks to dynamic disks.
You can use dynamic disks to create software-based RAID volumes that can be mirrored, or they can be striped or spanned across multiple disks. You can also expand single-disk and spanned volumes without having to restart the computer.
After you convert a disk to dynamic, you can only use Windows 2000 and later versions of Windows on any volume of that disk.
To continue, click Next.
< Back
Next >
Cancel

2. Follow screen instructions to install. While finished, the “Computer Management” window appears.



The actual disks listed will depend on your system, and the unallocated partition is the total combined storage of two hard disks. You must format the unallocated disk space in order to use it.

3. Format the unlocated disk space. Right click “Unallocated space”, select “New Partition…” and follow the wizard. After the drive has been formatted, it is ready for use.

Win2K Limitation with Bootable RAID

In Windows 2000 (Service Pack 2 or previous versions), the end user cannot install this operating system to a bootable RAID volume.

There are two solutions to resolve this issue.

I) Use the NVRAID Tool to convert the boot volume to a RAID array.
Here are the detailed step by step instructions:

1. Install Windows 2000 on a selected hard drive.
2. Download and install Windows 2000 Service Pack 4 from Microsoft's website.
3. Reboot the system, press the **DEL** key as the system is rebooting to enter into the system BIOS.
4. Select **Integrated Peripherals→RAID Config**.
5. Enable RAID Config for the selected drive (the one containing the Windows 2000 operating system). Then press **F10** to exit and save settings in the system BIOS (This action reboots the System).
6. Press **F10** as the system is rebooting to go into the RAID ROM(The system directs you into the NVIDIA RAID Utility).
7. Select **Striping** under **RAID Mode.** Press **TAB** to go into the **Free Disk menu**. You can use the Right Arrow key to add the desired disk.
8. After that, Press **F7** to finish. Select **N** (NO) when asked to **Clear Disk Data**.
9. Then Press **Ctrl-X** to exit. The system reboots into Windows 2000.
10. Install the NVIDIA nForce Driver Package while in Windows 2000. Then reboot the system.
11. Go to **START>Programs>NVIDIA Corporation** and select **NVRAID Manager**. You should see the single disk RAID array (in striping mode) that was created from the boot disk.
12. Select the single boot disk RAID Array by clicking on it.
13. Select **Convert Array** under the **System Tasks**. The **Convert Array** wizard is displayed. Then Select **Next**.

14. Select the desired type of RAID array you want to convert. Then Select **Next**.
15. You are prompted to select the desired **Free Disk(s)** to add to the bootable RAID array. Click **Finish**.
At this point, NVRAID starts converting the single disk RAID array into a multi-disk RAID array in a bootable format.
Note: Conversion may take 1-2 hours depending on disk size.

II) The user must create a combination installation CD that includes Windows 2000 and SP3 or SP4 fixes integrated in. To create the combination installation CD, refer to the following website:
http://www.microsoft.com/windows2000/downloads/servicepacks/sp4/HFdeploy.htm
Note: If the end user chooses not to install Windows 2000 Service Pack 3 or 4, RAID is still supported on Windows 2000. However, the end user will not be able to create a bootable RAID volume.

Using 8-channel Audio (optional)

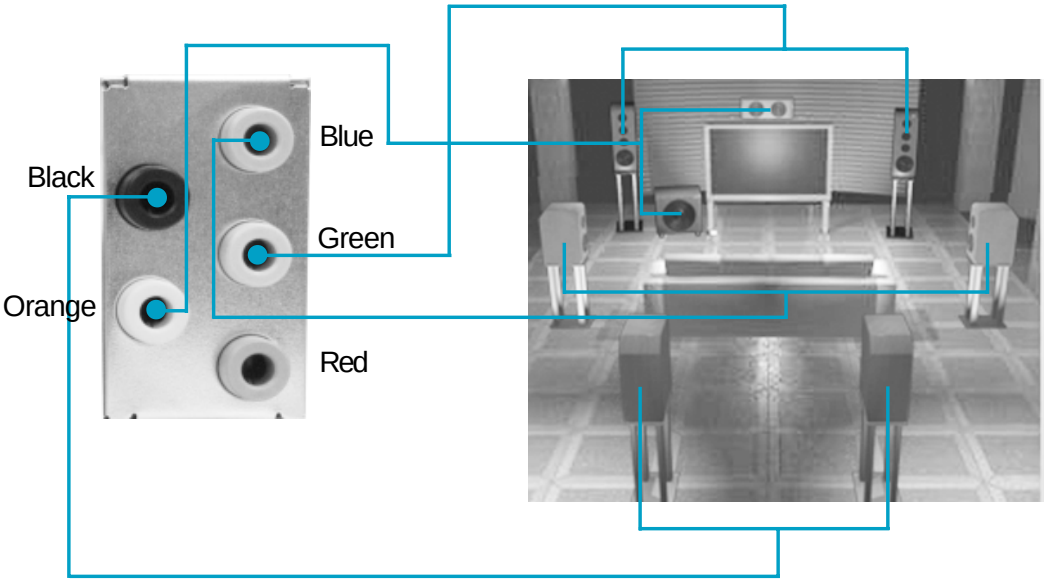
1. Introduction

8-channel audio is the highest surround sound standard available adding two speakers over existing 6-channel audio set-ups. 8-channel surround sound is already a standard feature for premium consumer audio devices, so it only makes sense that as users increasingly use their PCs to listen to the latest multimedia content that 8-channel support makes the migration as a standard PC feature.

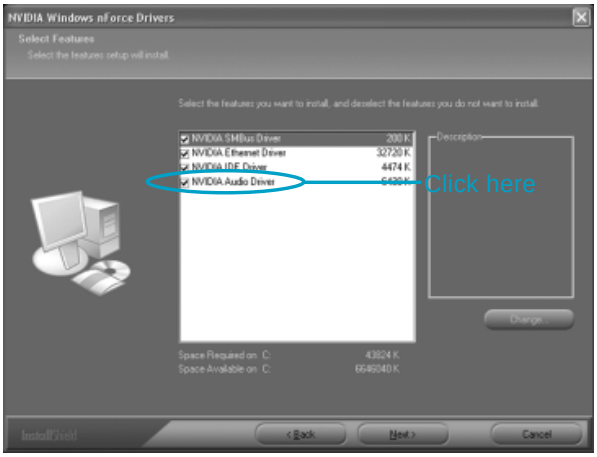
In the 8-channel surround sound configuration there are the standard front, center, LFE (bass) speakers but also two surround speakers are placed at the sides of a listener, and two speakers directly behind the listener. Some formats also support a 8-channel audio configuration wherein there is only one speaker behind the listener. However, since audio connections always come in stereo pairs most PC hardware will automatically support the 8-channel configuration. It is also fully supported in the Windows XP operating system.

2. Using 8-channel Audio

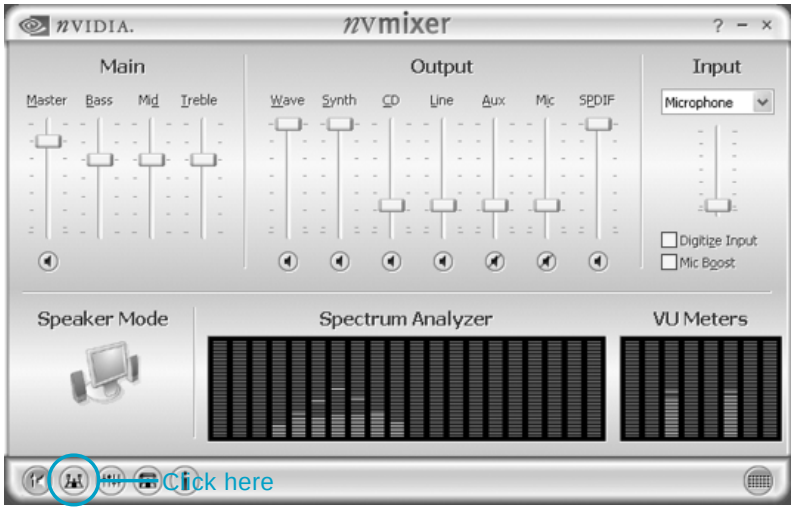
STEP 1. Connect the front channels to green jack, the rear channels to black jack, the Center/Subwoofer channels to orange jack and Side channels to blue jack. Please refer to below figure.



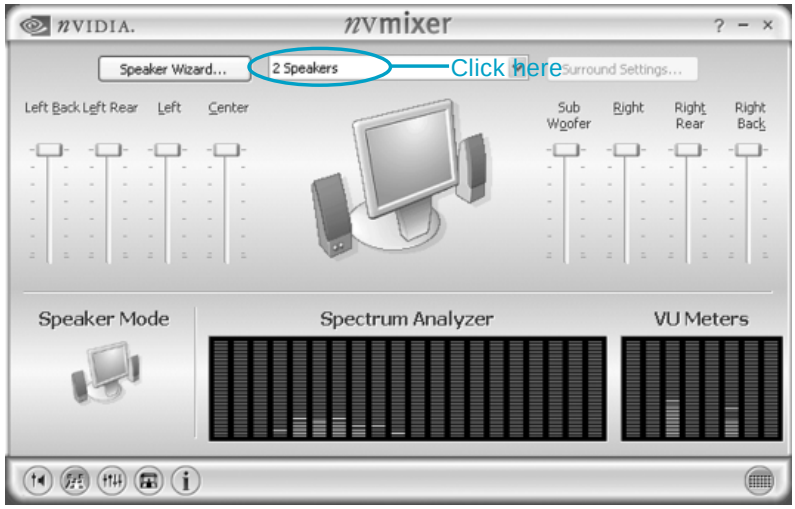
STEP 2. You need to install the driver for the audio chip before you can use the 8-channel audio function.



STEP 3. After installation of the audio driver, you'll find an icon on the taskbar's status area. Double click the icon, you will see the following picture.



STEP 4. Click icon. The following picture will appear.



STEP 5. Make sure you select "7.1 Speakers" from the above picture. Now you can enjoy the 8-channel audio function.